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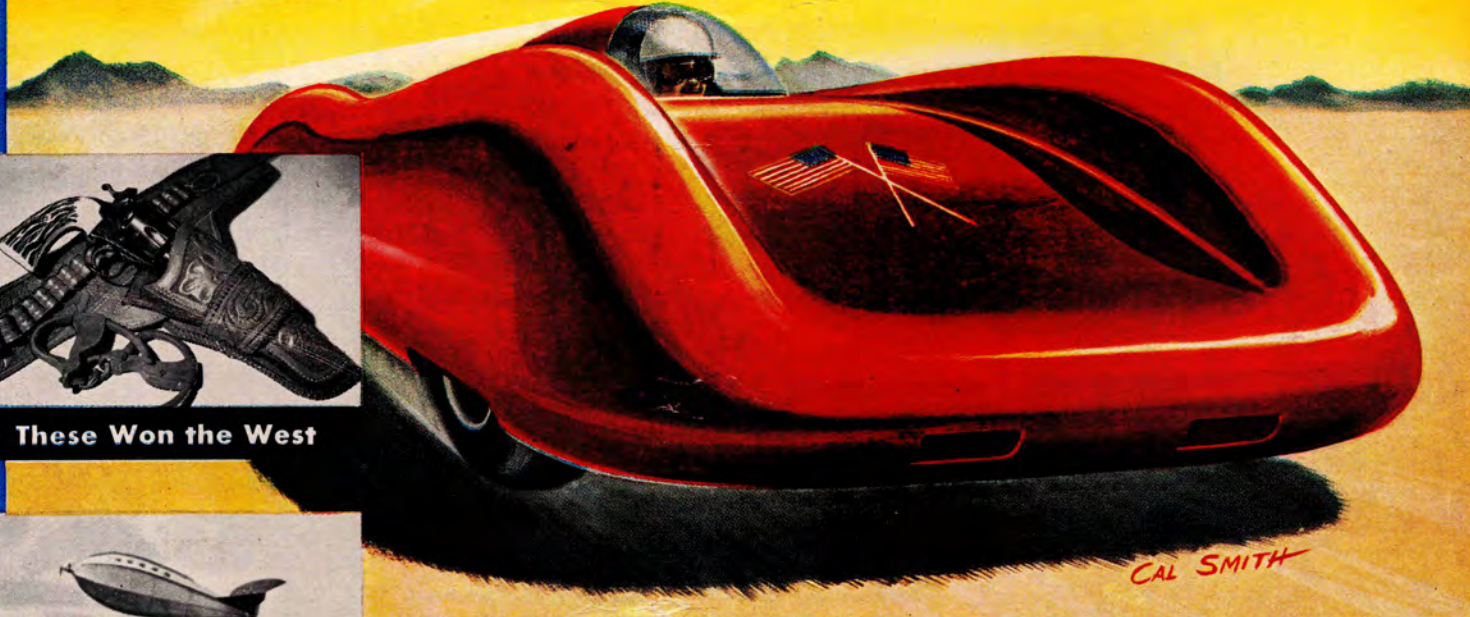
WHICH IS FASTER?
Plane vs Car (see page 32)



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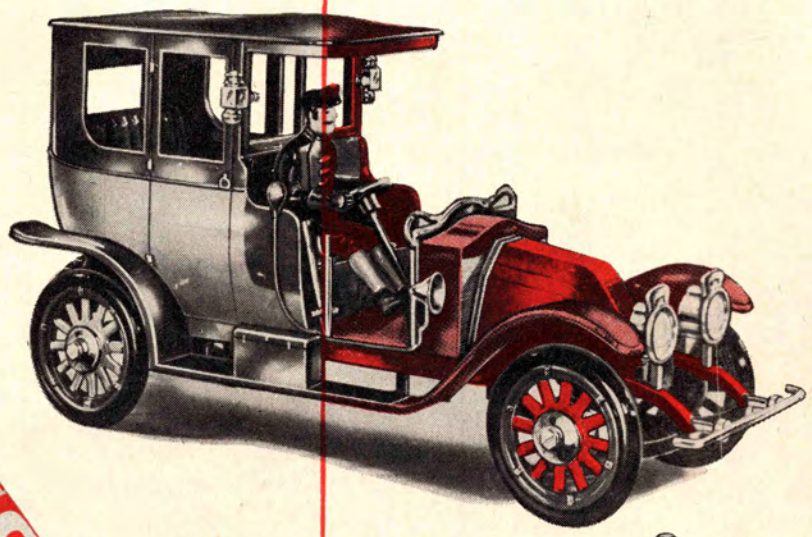

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A Questionnaire for Men Considering a College Education

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2. Would you prefer a degree in aviation — an industry which pays graduates up to 10% more per year? .....
3. Do you believe that a degree from a long-established college will give you additional prestige when you enter your chosen field? .....
4. If interested in aviation, would you choose a college which offers a degree in any of three fields . . . Aeronautical Administration, Aeronautical Engineering, or Maintenance Engineering? .....
5. Would you prefer a college that is associated with one of America's first and most respected universities such as Saint Louis University? .....
6. Would you choose a college that offers courses that are always being improved to keep up with the times? .....
7. If you are eligible for ROTC, would you choose a college which offers, upon graduation, a commission as second lieutenant in the Air Force Reserve? .....
8. To complete your college life, would you like to be able to participate in sports, fraternities, musical organizations, and other social activities? .....

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Speaking of HOBBIES

All communications to the editors should be addressed to 304 East 45th St., New York 17, N. Y.

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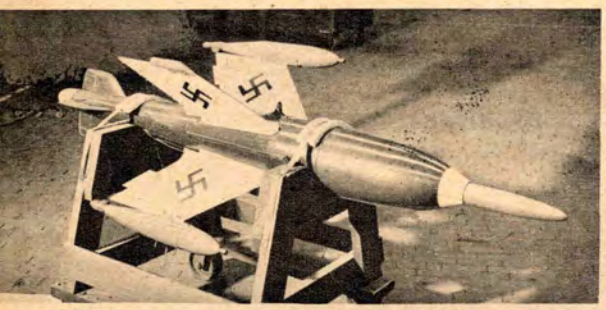

Control line free flighter

A Lady and her Trophy

Round the Pylon

What's new in Sweden?

It's a wee bit late to discuss Christmas Cards but we thought you'd enjoy that twin Dyna-Jet and glow plug engine powered sled Carl G. Ahremark of Sweden drew for us on his card . . . our biggest one, incidentally, came from Canada and was sent by the de Havilland Aircraft folks up there. Measured a "full" (as they say in the ads) 10 x 12 inches.

Our gal friend there at the left is Mrs. June Dyer of Oakland, Calif., shown with a portion of the trophy she donated to the Northern California Free Flight Clubs. It's a perpetual prize awarded in special NCFFC events. June and her neighbors, Mr. and Mrs. Harvey S. Robbers, Sr., have put in years of effort directing air-model activities in the Bay Cities area.

Talk around the office turned one day to flexible wire closed circuit controls for free flight models—sort of a combined radio control-control line deal. Tech Ed Alex Dawydoff listened in for awhile, then reached in the files and withdrew that German X-4 guided missile pix. Shot from an aircraft, the X-4 was controlled initially via impulses transmtted through fine wires which unreeled in flight from those wingtip pods. On nearing its target (an Allied bomber), a proximity fuse using vibrating reeds exploded the U/C. This air-to-air missile was propelled by a single rocket.

That Infant powered autogiro is a round-the-pole flyer developed by Robert Tennenbaum of New York City. Goes like blazes on 10 foot lines. Bob is working on a slightly larger version for longer lines and a future issue of ATHFYM . . . that's us, you know.

We guess Air Trails Hobbies should take a bow for the "Aeromodeller Annual for 1953"—there's so much of our stuff in it. The Annual, says its publisher, is "a review of the year's aeromodelling throughout the world in theory and practice; together with useful data, contest results and authoritative articles, produced by staff and contributors of the Aeromodeller." It's available in this country from Gull Model Airplane Co. for $2.98. And well worth it; you'll recognize a lot of plans "lifted" from Air Trails: Howard McEntee's tiny 9 inch span rubber powered scale Chipmunk, Hank Bourgeois' Jezebel team racer, Del Gatto's All-Wing Wonder A/2 speed plane, Frank Van Buren's R/C scale Buttercup, and Red Kochman's Sweet Sixteenth F/F—those caught our eye in passing.

Our thanks: to the Henry Ford Museum and Greenfield Village, Dearborn, Mich., for that photo of the Wrights' bicycle shop which ran on page 23 of our December issue—the shop was removed from its original location in Dayton and restored in G. V. where you can see it now . . . to Ed Pachasa of Cleveland Model Products Co. ("since 1919") for the last remaining set of the old and extremely valuable "Cleveland Modelmaking News and Practical Hobbies" . . . to Walt Good who passed on the info that Russia's Jacob Malik was once a hot-shot modelplane builder.

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Buried in This Ad

are most of the new items. Sometimes there isn't time or space to list all of them. But, if available anywhere, we have it.

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Scientific 2 in 1 Kit 18" AA		2.50
Scout 24" AA		2.50
Scout 36" A		3.95
SE 5 17" AA		2.50
SE 5 14" A		3.95
SE 5 32" B-C-D		6.95
Senior 9 27"		3.48
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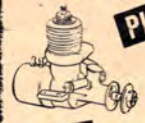
PLUS  ROYAL SPITFIRE .065

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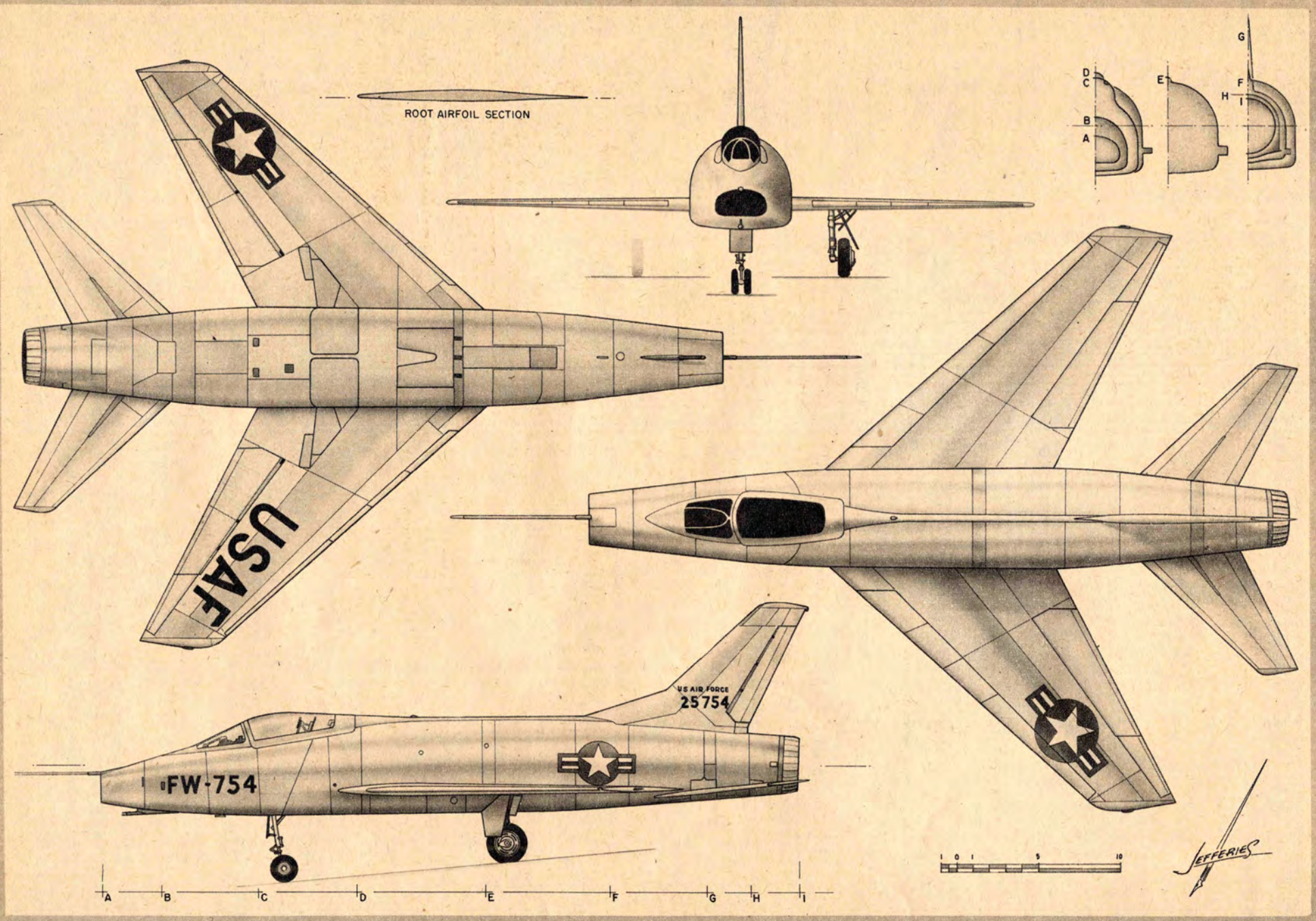

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Land, Sea 'n' Air Notes

LOCKHEED C-121, military version of Constellation carrying Vice President Nixon around the world, made flight from Canton Island to Wellington, New Zealand, 2850 miles, in 11 hours and 50 minutes, non-stop. . . . FIRST Republic F-84G Thunderstreak swept-wing fighters go to 27th and 506th Strategic Fighter Wings at Bergstrom AFB, Texas, and Dow AFB, Maine.

★ ★ ★

ANNUAL National Soaring Contest will be held this year at Elsinore, Calif., from July 27 through August 5.

★ ★ ★

AUTO INDUSTRY definitely interested in what is generally called a "sportscar." Detroit sees it as short-wheelbase design with large-torque engines, and envelope-type streamlined bodies, some of which show influence of Italian design. Cockpits, or driving compartments, show aircraft influence both in instrumentation and control layout. GM admits it took more than one casual glance at the record-holding Douglas F4D-1 Skyray prior to putting finishing touches on the turbine-powered experimental Firebird. The swept-back surfaces, raked rudder, front end body treatment attest to that. Driving unit consists of two power plants, a gassifier unit, actually a small turbojet engine whose exhaust gases drive a second multi-stage turbine connected to the gassifier by a duct, this driving turbine being coupled through a two-speed transmission to shaft and rear end.

The Shadow
Unusual adventures of a man whose dual existence is the nemesis of the criminal mind
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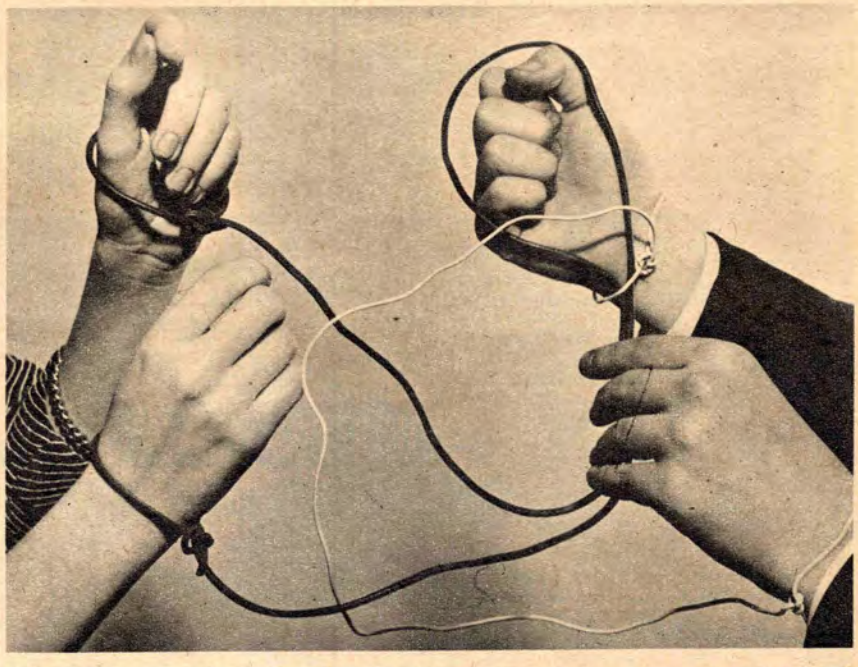
THERE'S MONEY IN MAGIC!

How do you get out of this one? Here's a neat parlor trick that requires only two pieces of string about 5 ft. long each, preferably of different color, and two people. Knot one piece around one of your wrists, then tie other end around your other wrist. Loop the second piece of string inside the first one and tie the ends of the second string to your partner's wrists. Trick is how to extricate yourself without untying the strings.



Here we go—it's quite simple. All you do is make a loop of your partner's string as shown. Slip the loop under the cord which encircles your own wrist. Then put your hand through the loop that was formed, and you're a free man.

What's Your Favorite Trick? Cash Prizes!

Ever notice how there's always one personality lad in any crowd at a school talent show—college get-together—civic or service gathering? And the one guy we've always admired is the fellow who stops the show—casually—with his bag of tricks.

To round off some of our square corners we're asking the readers to send in their favorite original tricks. Air Trails HOBBIES will pay $25.00 for each one illustrated here. All you have to do is furnish us with a description of your favorite feat (no puns, please); include rough diagrams or sketches if such are required. Send to "There's Money In Magic" Dept., c/o Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y.

Should we egg her on? Problem is to get the egg from its present perch into an adjoining cup without touching it. Ever been to a gathering that suddenly dries up, conversation lags, you see everybody getting fidgety? Well, here's one way of livening up any near-dead session. Ease your bag of tricks in, take over adroitly with your magic and legerdemain. A few good tricks can open a lot of doors.

Thar she blows. All you need is lung power! Steady air pressure moves the egg into the second cup. Mark this as good advice: try to file away in your ears-spacer several tricks a month. Soon you'll develop a sizeable repertoire with which to entertain the crowd. There's nothing hard about tricks like those shown here; sometimes the best trick is the simplest. You don't have to be a professional magician to be a good entertainer.

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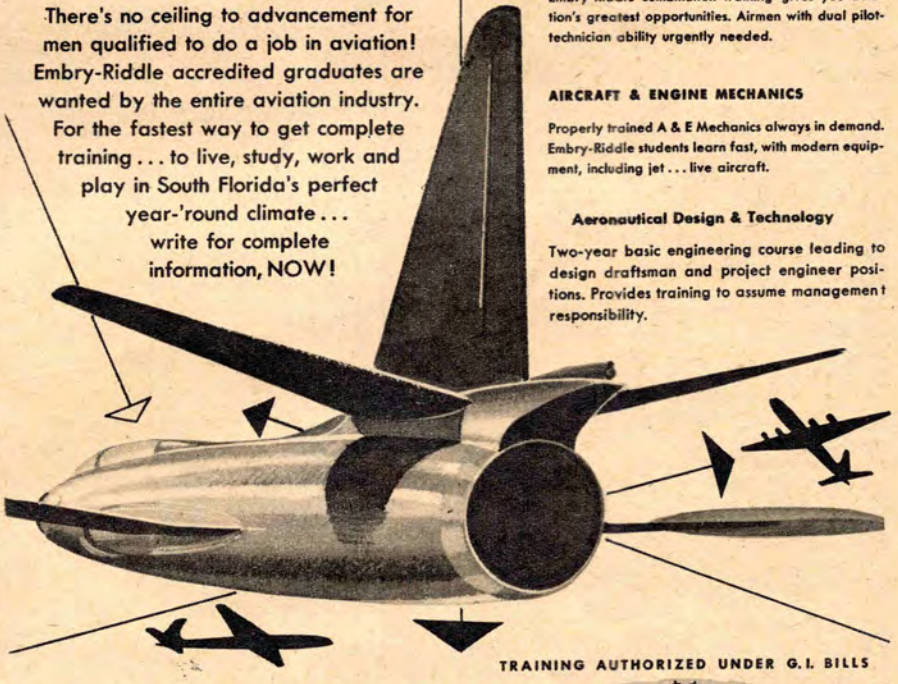

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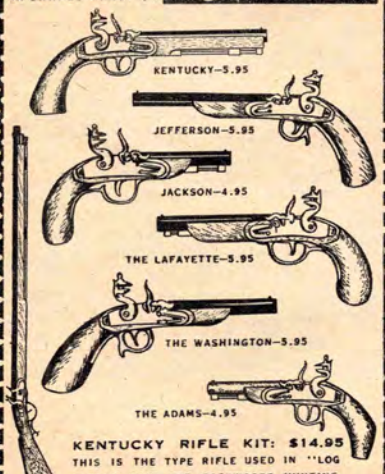

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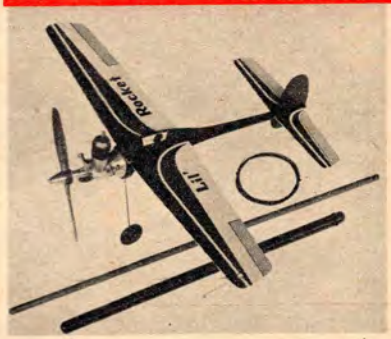
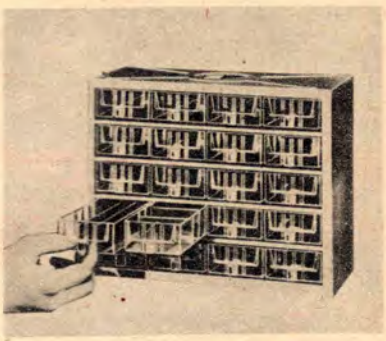


Lil' Ole Texas Rocket. We refer to "Lil' Rocket" single-line control model that comes with Cub engine ready to fly. Only additional items needed are fuel and batteries. $7.95, made by Victor Stanzel & Co., Schulenburg, Texas. Plastic fuselage, balsa wing.



Approved Peeking. You store, yet still are able to conveniently see those small parts. "See-Thru" drawer cabinet ($7.95—General Industrial Co., 5747 N. Elston Ave., Chicago 30), has 20 spill-proof plastic drawers. Overall it's 10.25 x 12.5 x 6 in.

Decorative Derringer. One of 4 additions to "Historic Firearms" line by Constructo Miniatures is this "1½" Phila. derringer. In kit form, includes pre-fabricated and turned wood parts, some cast metal pieces. Outfit is at 1186 Broadway, New York City 1.

BIG R/C WHEEL NEWS!!

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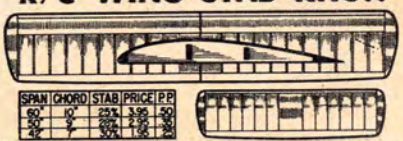

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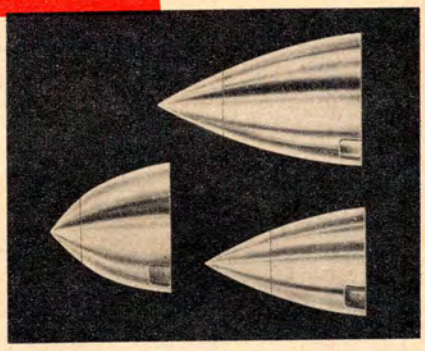

Nosey, Hey? Froom Mfg. Co. (718½ East Colorado Blvd., Glendale 5, Calif.) adds three spinners for Half-A size motors. Diameters of needle nose versions are 1.25 and 1.5 in.; blunt nose job is 1.5 in. Hand spun, lightweight. Prices range from 75¢ to 90¢. Mighty dressy.

Hot Customer. Turner LP torch (liquefied petroleum) is hand-held model with disposable fuel tank by Turner Brass Works, Sycamore, Ill. ($6.95 for torch, $1.95 for replacement fuel tank). Tank is 9 9/16 x 2 7/8 in. All-brass burner and fittings. Handy for hobbyists.

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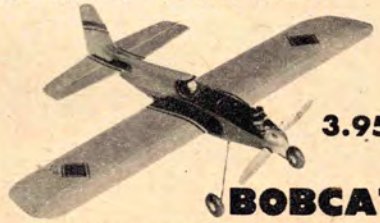

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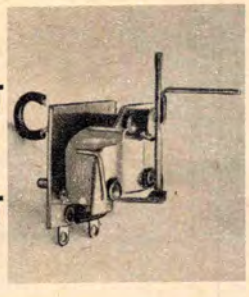

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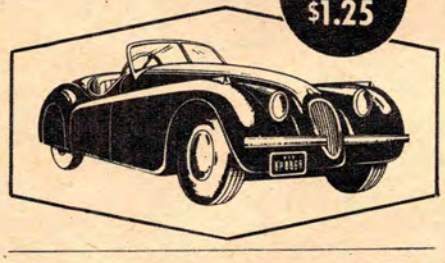

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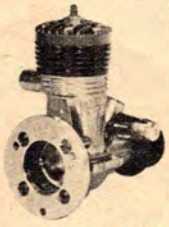

FOR .19 AND .23 ENGINES

Rear view of .19 shows mount ring installed. The three mounting holes are the same spacing as mounting bolts on .29 and .32 engines.

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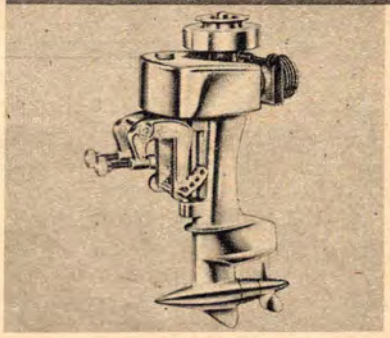
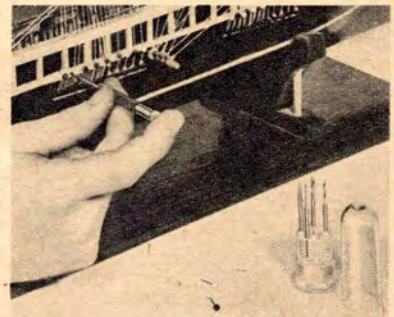


Mini-Outboard. Cute, hey? Model outboard engine is Allyn's "Sea Fury" ($9.95, Allyn Sales Co., 6425 McKinley Ave., L. A. 1). Turns up 17,000 rpm, sez Perrin Culver, its designer. For miniature runabouts, cruisers and racing boats; around 30 knots.

Radio Control Info. Assembled from material which has appeared in previous issues of this magazine, "Basics of Radio Control for the Model Builder" gives the new R/C fan lotsa dope. (35¢ from Hobby Helpers, 770 Hunts Point Ave., NYC 59).



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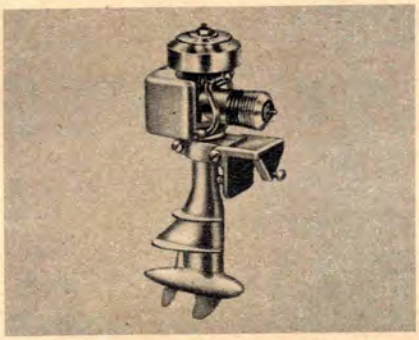

Atwood's Outboard. After 25 years in air engine biz, Bill Atwood returns to boating with this .049 air or water cooled motor. Under $10. Atwood Motors, 3716 Park Place, Montrose, Cal. Outfit is also breaking with inboard models, air and water cooled.

Sure is! "Whittling Is Easy with X-acto" is 40-page expanded how-to-do manual by X-acto (48-41 Van Dam St., Long Island City 1, N. Y.). In it are 34 simple yet attractive step-by-step projects by Leroy Pynn, Jr. 25¢. All types of interesting projects here.

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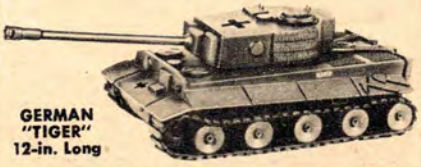
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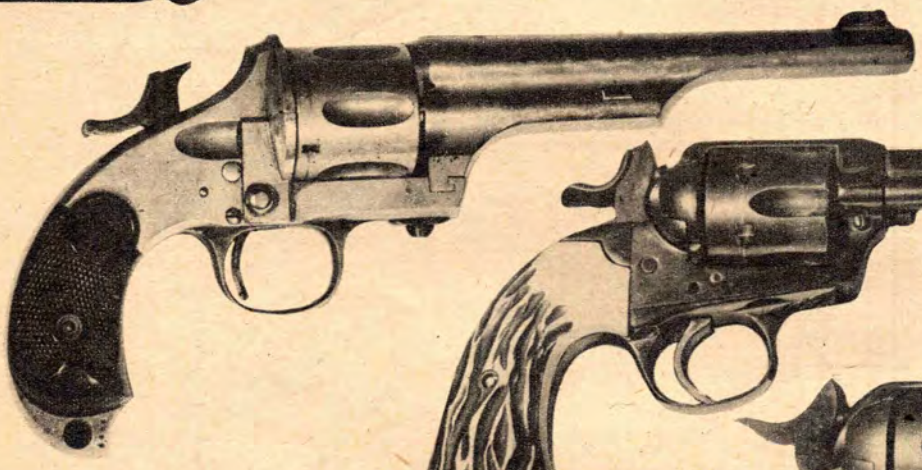
Guns that won the West

One favorite revolver between 1861 and 1870 was Navy Colt .36. Though service type, it often turned up in unauthorized hands. Muzzle loader: obsolete in 1870.



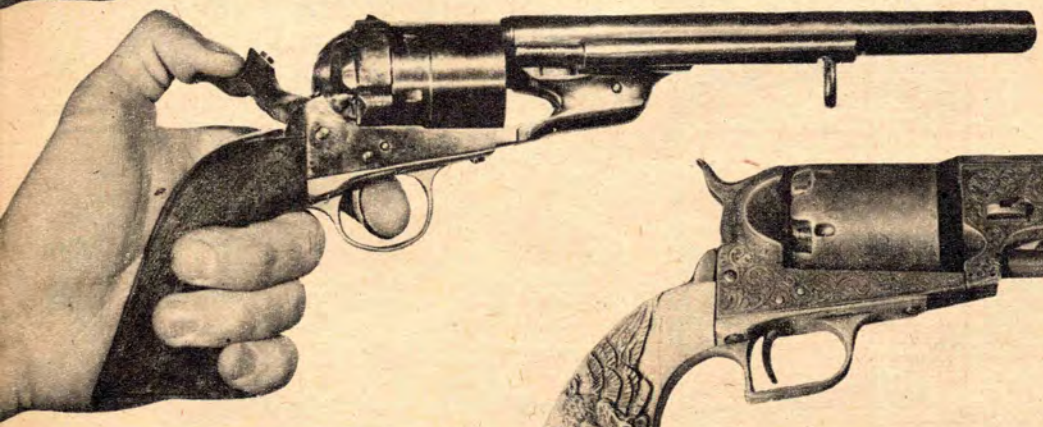
Merwin-Hulbert .44 Army revolver. An unusual gun of the 1880s. Had unique side-break for loading. Barrel pulled forward for loading and ejection.

A delight with shooters of legal or illegal intentions: .38 Bisley Colt Special of 1880. Extra large grip gave good stability when drawing a bead.

Used by the lawmakers of 1890s, the Sheriff Model Colt .44—with its sawed-off barrel the "detective gun" of its day. Not usually carried in an open holster, but inside your coat.

Left: the military services furnished the West with many of its early weapons like this Navy Remington .36 revolver of pre-Civil War vintage.

Pearl handles, plain or carved, and fancy designs etched on metal parts were the vogue in 19th century. This is Mexican War's Colt .44 Dragoon.



Most famous of all, the pearl-handled Frontier Colt .44, known as "the gun that won the West." Used by "good" and "bad."

This Colt .44 originally was a percussion gun but in 1871 was converted for standard cartridge.

THE "LIVE WIRE" "Cruiser"

NEW!

A fine new 100% Radio Controlled model, very realistic in appearance, exceptional in performance, high in quality. *THE MODEL WHICH WILL SET THE PACE!*

The "Cruiser" has been developed to give you "big plane" looks and appearance, combined with the fine flying qualities of our Live Wire design. In the "Cruiser" you have the ultimate in R/C design, construction and utility giving a semi-scale model capable of contest performance under any conditions. The "Cruiser's" performance is exceptional with the simplest single channel radio, yet it accommodates the fabulous multi-channel systems with ease giving even finer performance with the additional controls!

SPECIFICATIONS:

Wing Span: 65½"
Wing Area: 775 sq. inches
Wing loading: Min. 13 oz./sq. ft.; Max. 20 oz./sq. ft.
Weight ready for flight: 4 to 6 lbs.
Bare model weight: 3 lbs.
Power: .19 to .23 engines
2 or 3 wheel landing gear as desired

Kit Contents:

- ★ Full size working drawings
- ★ Complete instructions including radio installation
- ★ All necessary hardware
- ★ Dural gear
- ★ R/C Bellcrank and horn
- ★ Grade A/1 materials
- ★ Precision finished parts
- ★ Decals

Complete Kit $14.95

Exclusive Feature

New, More Compact R/C Unit

- ★ Remove entire R/C gear in less than one minute!
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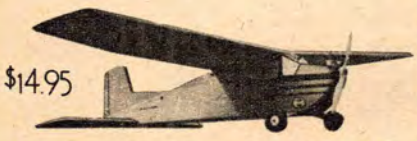


$14.95

THE "SENIOR" .19-.23 ENG. CUSTOM BUILT

"LIVE WIRE"

The name that signifies the PROVEN BEST for all R/C flying.

Only with Live Wire Models do you get all these superior design features!

PENETRATION . . .
The force arrangement is such that it provides exceptional wind penetration without excessive power. Climb is controlled under all flight conditions and speeds.

STABILITY . . .
All design factors are aimed to provide exceptional stability and immediate recovery from abnormal positions without sacrificing maneuverability.

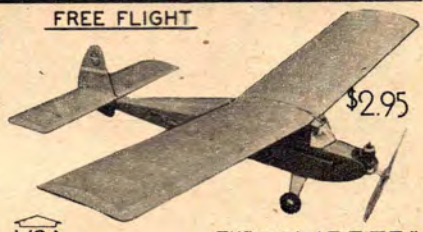
POSITIVE CONTROL . . .
The Live Wire is instantaneously maneuverable and responds to any rudder action whether in the glide or under power assuring fine precision flight.

REMOVABLE R/C UNIT . . .
All the radio gear is installed in a removable unit making things easy to get at. This results in more and better flying with less work.

SIMPLIFIED STRUCTURE . . .
The extensive use of prefabricated sheet balsa makes for a simple to assemble model with extreme strength which gives many trouble free flights.

A/1 MATERIALS . . .
Live Wire kits are complete kits for building the model. All materials are unconditionally guaranteed to be the finest, instructions cover building, radio installation and flying, plans are complete and full size.

FREE FLIGHT



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THE "KITTEN" R/C

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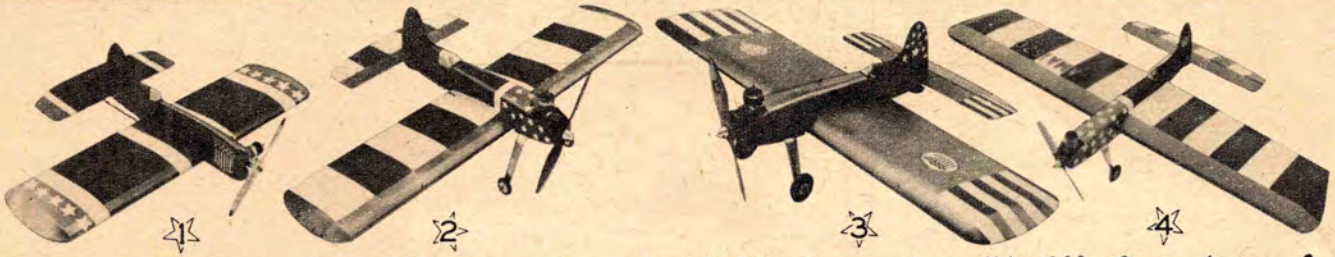

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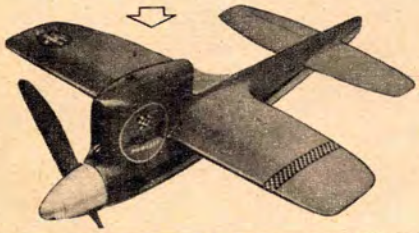

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What's Your Hobby?

CASH AWARDS FOR INTERESTING PICTURES

Many are the hobbies indulged in by folks young and old, ranging from model airplanes to teaching dogs to play the piano. For instance, Horace T. Elmo's "The Complete How-To Book of Hobbies" lists close to a hundred different interesting avocations.

One of the more unusual hobbies is making stained glass windows. At best it is a difficult and demanding task requiring many years of experience. Stained glass, fine examples of which are seen in churches, cathedrals and other religious and historical edifices, is made in several different ways: it can be colored by metallic oxide which is fused into the glass, by superimposing colored panels over clear glass, or by burning pigment into a standard glass panel. The window is first assembled flat in lead frames and then put into its casement.

David Somers, 18, above, whose father is a stained glass artist, became interested in his dad's trade, and soon made a hobby out of it. When his father grew too old to do the work alone, Dave and his brothers, also stained glass enthusiasts, pitched in to help out, thus putting their hobby to a good and profitable use. The Somerses are one of the relatively few families in the world dedicated to this magnificent craft.

CASH AWARDS FOR HOBBY PHOTOS HOW TO ENTER

■ There's nothing that brings folks closer together than a mutual interest in some particular hobby. In grandfather's days hobbies were not so well publicized.

Today all that is changed. Now every member of the family has his or her own hobby (or hobbies).

All this is very much to the good. But what are some of these hobbies? How about sharing information on your leisure-time activities with other young fellows? To enable you to do this Air Trails HOBBIES has established this new "What's Your Hobby?" section.

For every picture published here the magazine will pay $25.00.

Photos must be accompanied by a description of your hobby, how you got started on it, when? What have been your accomplishments in it to date? Has it helped you plan ahead or produced revenue? Why do you recommend it to others? To what ages? And so on.

Send your letter and photo showing you engaged in your favorite hobby to "What's Your Hobby?" c/o Air Trails HOBBIES For Young Men, 304 East 45th Street, New York 17, N. Y.

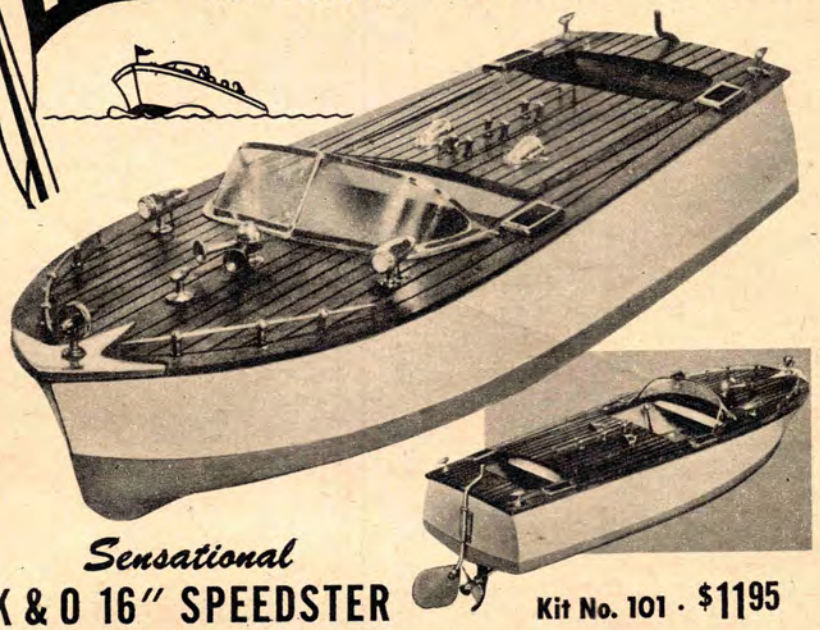
Do it today!

Charles W. Wright, 14, of Brooklyn, N.Y., is the youngest known taxidermist with professional skill. The hobby began when his pet Easter rabbit died. Reluctant to part with it he decided to preserve it by stuffing. Charles took a correspondence course in taxidermy and soon became amazingly adept. Here he holds a live pigeon next to one that he mounted.

K&O

FINEST IN MODEL BOATS

KITS • MOTORS • DRIVE UNITS • ACCESSORIES



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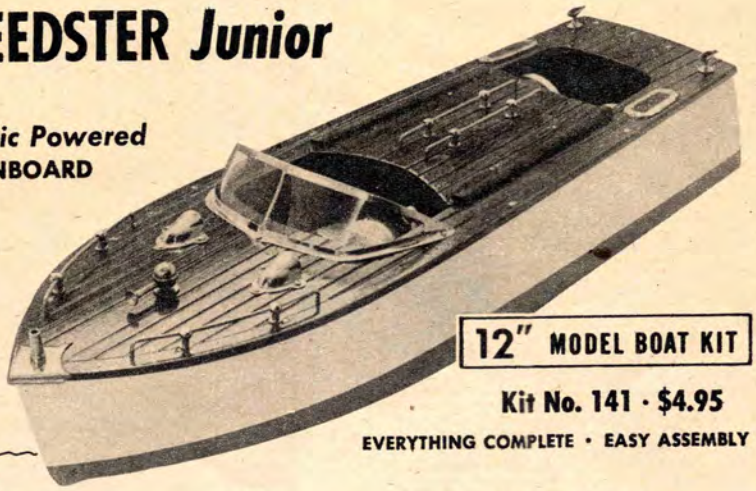
SPEEDSTER *Junior*

Electric Powered INBOARD



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EVERYTHING COMPLETE • EASY ASSEMBLY

It's New! 12" of authentic, detailed, sleek, powerful beauty in K&O kit form. Everything the model boat builder could ask, attractively packed in blue & white carton. $4.95 buys the works! Parts complete from battery powered drive unit down to brads for hardware mounting. Hull, deck ready shaped—just stain and paint. Hardware heavy nickel-plate. A cinch to assemble. Throw the switch—watch it perform!

OTHER K&O PRODUCTS

include the 16" Speedster Kit 11.95—Gas Engine Screw Sets, 5 sizes 3.95 to 7.95—Electric Drive Units 1.95 to 4.95—Electric Inboard and Outboard Motors, all sizes 2.00 to 4.95—and a complete line of nickel-plated Model Boat Fittings.

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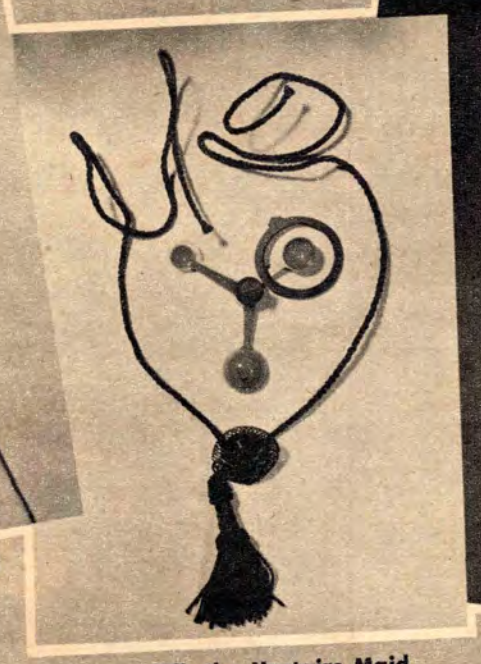
CASH IN WITH YOUR CAMERA

Aunt Agatha's in from the West

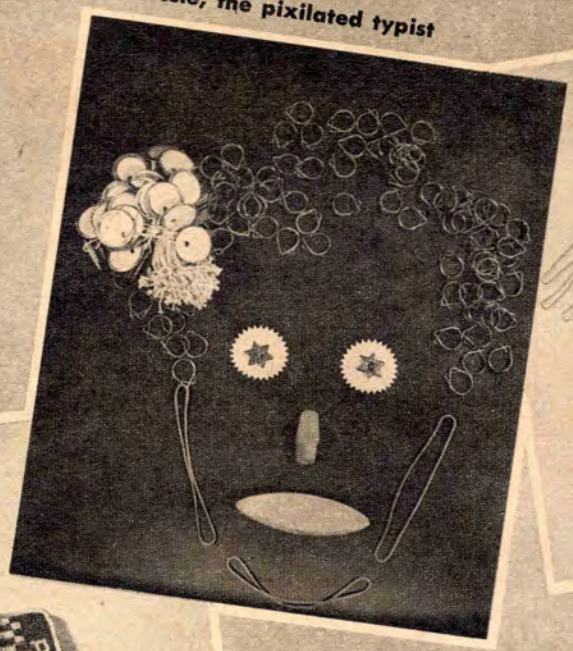


Fifi, the Upstairs Maid

Obviously—the Office Blonde

Trick Pix

Tessie, the pixilated typist



Joe College—he never owned a hat

He wears a feather in his cap

HOW TO WIN "TRICK-PIX" CASH

It's easy to qualify for the $25.00 cash awards which will go to readers whose trick pictures are presented here! You can submit as many different entries as you wish; none should be less than 4 by 5 inches, and preferably 8 by 10" glossy prints. We will return all photos submitted, but cannot accept responsibility in case of loss or damage. Pictures may be of one-dimension subjects (people, inanimate objects, cartoon caricatures, etc.) or can be table-top full dimensional scenes. Amateur and professional photographers stand an equal chance. Keep the subjects humorous and/or startling.

POWERFUL FUN...

With a Jim Walker "Firebaby" you can know the thrill that only a pilot knows — the high-pitched roar of the engine... the surge of power as the plane leaps into the air... the satisfying response as you move your wrist... the thrill of stunting with wings...

Buy the Firebaby ready to fly, complete with engine, controls and lines; all parts finished, painted and fuel-proofed. Span 19 in., wt. 3 oz. Available with or without engine, single wing or biplane.

With engine, as low as **$7.85**

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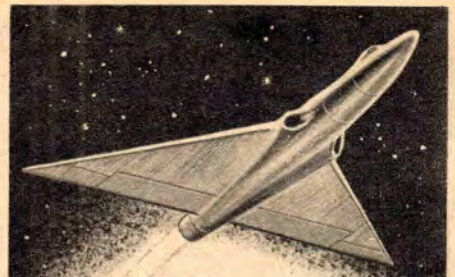

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Northrop Trained Men are "ON THEIR WAY"

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Recent Graduate Placement

- *Walter H. Weideman, Jr. of Little Rock, Ark.* **Engineer, Ryan Aeronautical Co., San Diego, Calif.**
- *Louis A. Vaughn of Vancouver, Wash.* **Engineer, Lockheed Aircraft Corp., Burbank, Calif.**
- *Bernard W. Bower of Long Beach, Calif.* **Aerodynamicist, North American Aviation, Downey, Calif.**
- *George E. Anderson of Lynwood, Calif.* **Engineer, Northrop Aircraft, Inc.**
- *William F. Krause of St. Charles, Mich.* **Aircraft and Engine Mechanic American Airlines, Inc., Los Angeles, Calif.**
- *Francis L. Clabaugh of Altoona, Pa.* **Engineer, Guided Missile Division, Consolidated Vultee Aircraft Corp., Pomona, Calif.**
- *Peter G. Senchuk of Youngsville, Pa.* **Liaison Engineer, Douglas Aircraft Co., Torrance, Calif.**
- *Cyril R. Cacace of Cairo, Egypt* **Aircraft & Engine Mechanic, Los Angeles Air Service, Hawthorne, Calif.**
- *and many, many more.*

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A surprisingly short time ago these men were just like yourself — reading one of our advertisements, and considering their future. Today they are off to a successful start. They were employed by the leading companies in Aviation because of the high regard which the Industry holds for men trained at Northrop Aeronautical Institute. YOU CAN ACHIEVE THIS SAME SUCCESS. GET COMPLETE INFORMATION ABOUT NORTHROP TRAINING TODAY. MAIL COUPON BELOW FOR FREE CATALOG.

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Please send me immediately the Northrop catalog, employment data, and schedule of class starting dates. I am interested in:

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The Reader Writes

The editors welcome opinions, observations and comments from the readers. Please address your letters to: Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y.

Nod of Approval . . . I was pleased to see the announcement in the "Hobby Merchandiser" that you were changing the policy of AT to include model cars and boats (mostly the boats) and other related hobbies, while at the same time not decreasing your coverage of model airplanes nor increasing the price of your very fine publication. We of the "Flypaper" and the B.C.F.M.A.C. wish to take this opportunity to wish you lots of luck with the new Air Trails HOBBIES For Young Men.

Albert E. Abrams, Jr., Publisher, Flypaper

• High praise indeed from a high-class club publication! "Flypaper" is probably the best club paper in existence today—anywhere. It's published for the Bucks County Federation of Model Airplane Clubs, 1031 Pond St., Bristol, Pa. (60c per year); Albert E. Abrams, Jr., Publisher; Clarence Wells, Editor.

Weightless Wonder . . . In Frank Lashek's article on his Martin P4M-1 twin-engine Mercator control line scale plane somebody's awful wrong. Original ignition system "weighs ⅞ oz.," he claims. Brother, show me how!

C. H. Quincy, Ft. Lee, Va.

• We'd like to know, too! That was a typographic error. Original manuscript stated ignition system weighed between 7 and 8 oz.

More on Origin of Names . . . I would like to add some information to "Where Those Plane Names Come From" that appeared in the January issue. Lockheed, which actually pioneered names instead of numbers for aircraft designations in this country, was almost completely ignored.

It started naming its aircraft for heavenly bodies back in 1927 with the first Lockheed "Vega." Then came "Sirius," "Orion," "Altair," and "Electra." The last commercial model before the war was the "Lodestar."

Things got a little out of line during the war, when the British applied the names "Lightning," "Ventura," and "Hudson," and the U. S. Navy applied "Neptune." Lockheed got back to astronomy with its own name of "Constellation" for its transport and "Shooting Star" for the jet fighter. Early postwar efforts continued the policy, with the "Saturn" and the big and little "Dippers." "Starfire" continues the astronomical trend.

Peter M. Bowers, Seattle, Wash.

From the VA . . . The continued interest in our veterans displayed by the members of your organization is gratefully appreciated. Your recent donation of stamps to our patients was a source of great pleasure and benefit to them.

On their behalf, may we thank you sincerely for your continued devotion to our hospitalized ex-servicemen.

Norman D. Lavoie, Chief, Special Services, VA Hospital, Brooklyn, N. Y.

• ATH sends all unusual or foreign stamps from incoming mail to V.A. hospitalized vets.

Has 91-plane Collection . . . I am writing this in reference to an article submitted by a former friend of mine, Lt. Dwight F. Brooks. He sent in a photo of MiG 15 he built. I say it's excellent. I also have a model of it in my 91-plane collection. I have read your most wonderful magazine for over ten years and I think it's tops. Wish you could publish more 3-views of WW II and Korean fighter planes. I hope Lt. Brooks sees this.

James I. Blalock, Ga. State Patrol, Thomasville, Ga.

Can't Forget the "Kingfish"! . . . I enjoy your magazine to the fullest extent and haven't missed an issue in three years, but you have slipped in one spot. In your article "We'd Like You To Meet" you've forgotten the "Kingfish," alias J. L. Sadler, who in my opinion is one of the foremost modelers in the U.S.

Julian Kagh, Jr., P.O. Box 389, Crossett, Ark.

• You'd be interested in reading "Meet The Kingfish" by H. A. Thomas which appeared in AT June 1951.

Requiescat in Pace . . . Although Donald Naughton thoroughly settled the question as to who killed Baron Manfred von Richthofen, disputing letters will undoubtedly come pouring in. Your magazine just cannot stay away from Richthofen controversies. One comes up every few years. The last was the letters from September, 1949 to January, 1950. (My letter appearing in November, 1949).

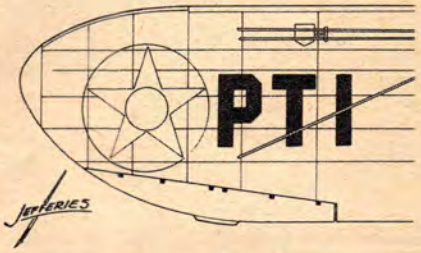
Art Ronnie, Los Angeles, Calif.

Rocker Arm from M-5 . . . I am writing this letter in the hope you can help me find out if I can get a part for a motor I have. This is a Morton M-5 model plane motor that I obtained several years ago from the Morton Aircraft Corp. in Omaha, Nebr. Since then I understand this motor's manufacturing rights were sold to a Burgess Co., possibly the Burgess Co. that makes batteries. This motor is a 5 cylinder and one of the rocker arms has broken on it and I would like to get a new arm. I can probably have one cast and machined for it, but it would be much cheaper if I could locate the last manufacturer of this motor and possibly buy the part.

James Westphal, Fremont, Nebr.

• Write to the M-S Engineering Co., Box 192, Libertyville, Ill.

Marking Added . . . In viewing the Boeing P-26A three-view drawings (Ed. note: page 23, March 1954 issue), I see the upper surface-left wing 20th Pursuit Group Mark-



ings had been omitted. Herewith the additions.

W. M. Jeffries, Jr., Washington, D. C.

Air Progress . . . I sincerely enjoyed your 1953/1954 Air Progress. I especially like "The Mystery Air Force," the cutaways and Jap Air Force. In your next Air Progress I would like to suggest an article on the Luftwaffe in the last days in the war. How about some cutaways on the F-86E, P-59A?

Steve Brown, Albuquerque, N. Mex.

. . . I am writing about your 53-54 issue of Air Progress. I think it was swell. I like the story about the Japanese Air Force and I think a lot of your readers and myself would like an issue about the German Air Force in pictures and names just like the story about the Japanese Air Force.

Robert E. Ferriman, Woodstock, Ohio

What Does Skyrocket Use? . . . Could you please tell me the fuel of a Douglas Skyrocket? Or is it a military secret?

Billy Fane, South Burneby, B.C., Can.

• The fuel of the Douglas Skyrocket is liquid oxygen and alcohol.

Send in Your Entries! . . . I have just been reading my latest issue of your magazine and I must say that it is keeping up the envious record of being the finest publication in its field, but I have one complaint. What has happened to the "Airmen of Vision" page and the "Sketchbook"? I have always enjoyed these articles and was planning to enter both very shortly. Maybe you just missed them for this month.

David Fraser, Montreal, Can.

• Right, D.F.! See the bigger and better than ever (we believe) versions of these features in this issue.

Look Fellows!

A BIG 30 INCH PROFILE BASIC TRAINER

- AMAZING FLYING ABILITY
- BEAUTIFULLY PRE-FABRICATED
- ALL NEEDED ACCESSORIES
- NEW FIXED FLAP DESIGN that eliminates offset rudder, offset motor and wing tip weight for easier flying.
- IMPROVED DESIGN of the very popular Trixter Trainer, developed by the knowledge obtained out in the field through study of the beginner's requirements.

constructed to stand terrific abuse

$3.95

WING SPAN 30 inches
Engine .14 to .19 disp.
motor, flying equipment and liquids not supplied.

Here's what you get with this smartly designed kit:

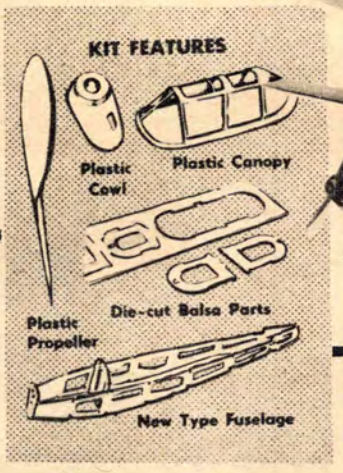
Complete bellcrank assembly.
Elevator horn with mounting bolts.
Wheels. Wheelocks.
Hinging material. Finished push rod.
Finished landing gear.
Finished wing tip line guide.

COMPLETELY PRE-FABRICATED. Hard wood motor mount. All can be assembled in a jiffy.

The Best Yet! Really New!
3 FLYING MODEL KITS
Ready for you at your hobby store.

Kit 50-1
North American Trainer T-28
16" Wing Span

These three additions to the Guillow fifty-cent line have the new one-piece side frame construction that saves you a lot of time. Note the gleaming plastic canopy, propeller, and cowl to give strength and beauty. All die-cut balsa construction. Clearly illustrated step by step plans will help you make a beautiful plane that is designed to really fly. If you want the best buy Guillow designed kits.



Kit 50-2
DeHavilland Chipmunk
17" Wing Span

Kit 50-3
Cessna L1 Bird Dog
18" Wing Span

50¢ each

Note large wing span.

Eight other models for your collection . . .
with all the features of the three new models but without one piece side construction and plastic canopy.

BRITISH SE-5
KIT 50-4

CESSNA
KIT 50-5

WACO CUSTOM
KIT 50-6

MONOCOUPE
KIT 50-7

AERONCA CHAMPION
KIT 50-8

HAWKER HURRICANE
KIT 50-9

SPITFIRE
KIT 50-10

VOUGHT CORSAIR
KIT 50-11

GUILLOW'S

If not available at your Hobby Dealer, send direct to factory adding 25c for packing and postage in U. S. A., 40c outside U. S. A.

PAUL K. GUILLOW WAKEFIELD, MASS.

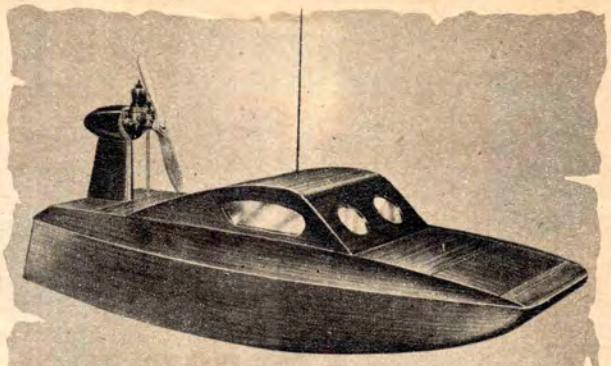
MORE THRILLS FOR HOBBYISTS

with

MASTER MODELCRAFT'S

exciting new . . .

"SEA SCOOTER" — an air-prop power boat for radio control.

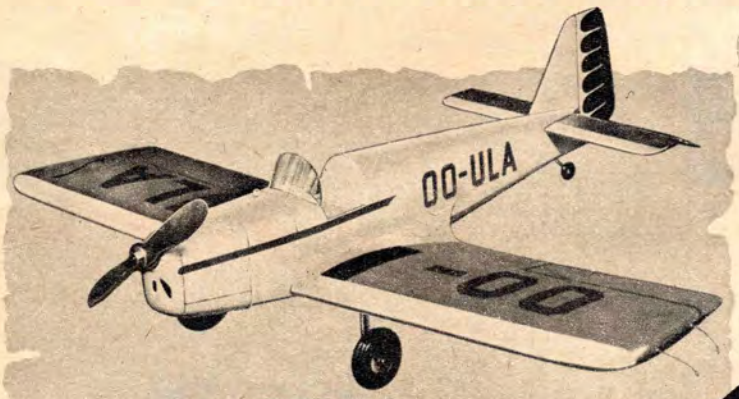


"SEA SCOOTER"

24" long — 11" Beam

Air Trails' "Sea Scooter" (Feb. 1954 issue) has come to life in this exciting air-prop power boat kit for .049 to .099 engines . . . Designed for the radio control enthusiast, it will accommodate any receiver including multi-channel models. All mahogany exterior; completely prefabricated with precision die cut parts keyed for fast easy construction. All necessary hardware is supplied. Outperforms, by far, model boats of similar size. Fun to build, thrilling to operate.
Price **7.95**

"TIPSY" — an exact scale stunt flyer.



"TIPSY"

30" span — 7" chord — for engines up to .19 displacement

A brand new top notch precision scale stunt model designed by Aubrey Kochman. Its unique construction combines the best features of die cut parts and precision shaped and hollowed fuselage sections to give you fool-proof and speedy assembly. "Tipsy" is a faithful reproduction of its full sized namesake and will be a contest winner in beauty and scale stunt events. At better dealers everywhere.
Price **5.95**

BUILD EXACT REPLICA OF FAMOUS SHIPS

Everyone a master model builder with new COMMODORE replicas of historic ships. Precision molded plastic parts insure authentic, professional models. Spars, booms, gaffs, masts, trestle trees, decks and bulwarks, etc., are each finished down to the minutest detail . . . to thousandths of an inch. Finished model deserves place of honor on your mantle. Not a miniature, but 16" long by 13" high Approx.

TEN GUN BRIG	2.50
BALTIMORE CLIPPER	2.50
BRIG WASHINGTON	2.50
REVENUE CUTTER	2.50

MASTER MODELCRAFT

727 WESTCHESTER AVE. • NEW YORK 55, N. Y.

APRIL 1954 • VOL. 42, No. 1

AIR TRAILS HOBBIES

FOR YOUNG MEN

Albert L. Lewis, Editor
Alex Dawydoff, Technical Editor
W. F. Tyler, Art Director

Carl Happel, Editorial Production
Rose Borello, Assistant to Editor
Barbara Grey, Editorial Assistant

Except for the location (Bonneville speed flats in Utah) our cover drawing this issue concerns a couple of California's hottest products. More details appear on pgs. 32-33. Cal Smith is the artist.

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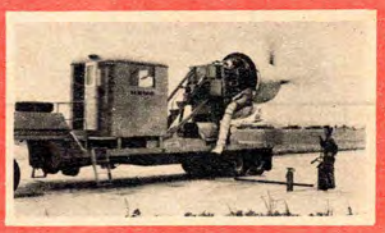
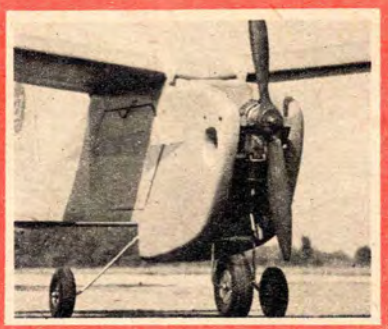
DON'T MISS THESE HIGHLIGHTS:

Hair Raising Stuff: pgs. 110-111



Sci . . . Tech . . . Mech: pgs. 68-70



This Is Really Good: pgs. 42-45

For $4,000 Just Turn the Page . . .

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CARVE YOURSELF A COLLEGE CAREER!

Would you swap your model for $4,000.00?

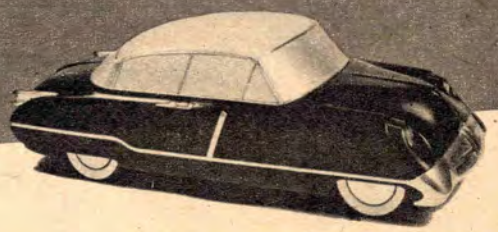
■ Every year youthful would-be car designers all over the U. S. have a heap of fun building models in the Fisher Body Craftsman's Guild annual contest—and getting paid handsomely for doing it! The Guild, sponsored by the Fisher Body Division of General Motors, is dedicated to developing the interest of teen-age boys in fine craftsmanship.

Since 1947 the Competition has been strictly for the design and construction of non-working models of automobiles. The '54 rules allow the builder to produce models in six different body styles. While advanced styling is encouraged, the cars must be designed with a strict eye for such practical features as sufficient body space for comfortable seating of the passengers, proper car balance, road clearance, visibility and so on. New styling tricks, different color combinations, fresh lines and trim rate.

Several million modelers have entered this competition. The wonderful prizes offered each year have helped stir their interest. For example, the two top National winners are awarded University Scholarship Trust Funds of $4,000 apiece, in addition to getting State and Regional prizes. There are eight top winners each year—four in each of the two age divisions. None gets less than $1,000. Model builders in each state enter their masterpieces in a State competition, where prizes range up to $150 in cash. State winners then enter one of the 20 Regional Contests. Regional winners receive all-expenses-paid trips to the Annual Guild Convention in Detroit worth an average of $750 each.

Unlike many contests conducted by large corporations, G.M. allows—in fact, encourages—the sons of its own employees, and those of G.M. car sales agency employees, to get into the fun. If any of these fellows win a prize (many have in the past) a duplicate prize is awarded to the next highest

They swapped these models for 4 G's! GM prexy H. H. Curtice (lt.); Ray Wykes, Senior winner; J. E. Goodman, GM veep; and Warren Bakken, tops in Jrs.



non-G.M. employee's son.

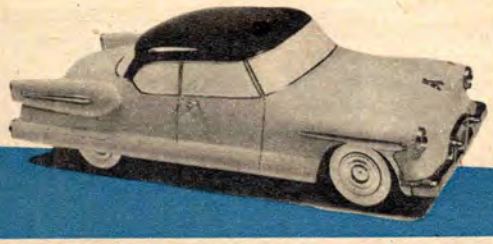
Model requirements are set in a general way by drawings that you get from the Guild, along with a booklet on design and construction.

To keep models to a reasonable size, the rules limit overall maximum length to 16¾", exclusive of bumpers; width must be under approximately 6 5/16". Since a wheel diameter of 2 7/16" is specified for all models, the sports cars have a maximum length of 14⅜"; they may be 2- or 3-seaters.

Models may be constructed of any material the builder prefers, just so long as it is durable enough to stand handling and shipping. Some builders prefer balsa wood; Norman Law of Miami feels that his 1953 winner was easier to build in balsa, and took just as good a finish, as a previous winner he had made of hardwood. On the other hand, James Louton, Jr., of Sulphur, La., switched to white pine last year, and likes it better than balsa. Though Top National Senior Winner Raymond Wykes of Medford, Mass., has been a very successful builder and contest flyer of model planes, and thus presumably a master of balsa wood construction, he too prefers white pine for his car models.

It is important to make and install all trim strips, bumpers, grills just as they would look on the big car. Some builders, like Richard Witkover, Bronx, N. Y., have been able to make these parts of wood, achieving the desired appearance of chrome plate finish with paint. Others file them from soft metals, such as brass or aluminum. The latter, when well polished, makes a "chrome"; brass and copper must be plated or painted.

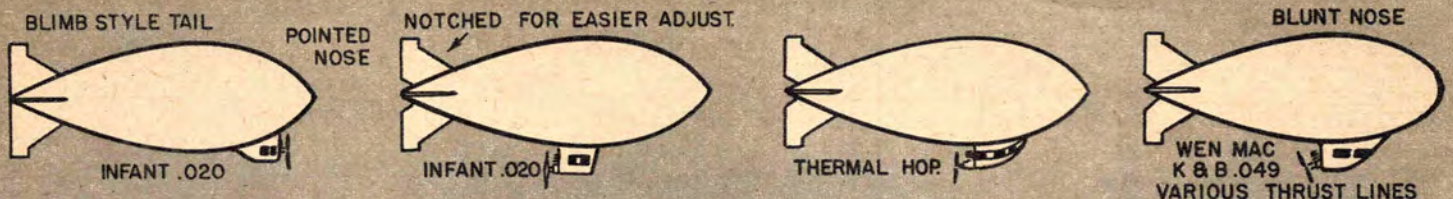
Car model entries in the Fisher Body contest can be plaster formed over a clay body, or carved pine or balsa wood. After your car is under construction General Motors will supply the wheels—free. Many entrants have gone on to notable careers in auto industry.



GET GOING TODAY!

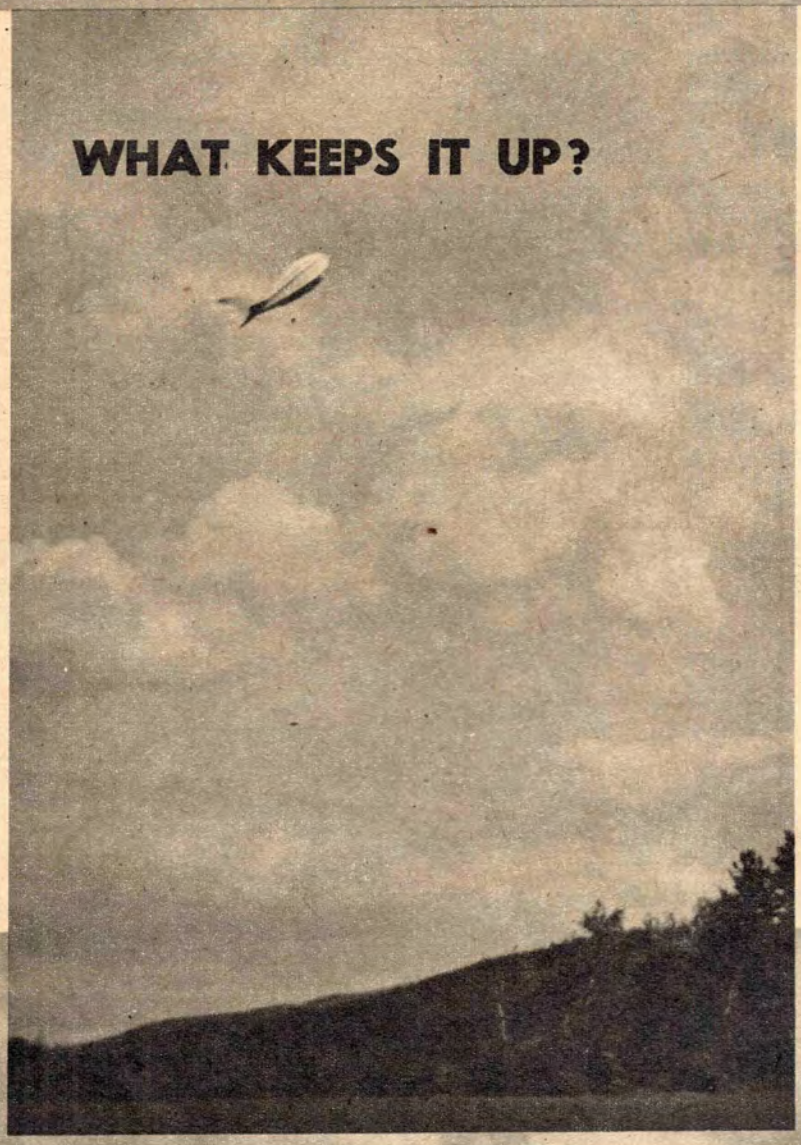
If you're between 12 and 19 and reside in continental U. S. you're eligible to compete for scholarships, cash, savings bonds. Write Fisher Body Craftsman's Guild, G.M. Bldg., Detroit 2, Mich., for information.

Development Cycle of Clough's Wingless Wonder . . .



First experiment basically was fattened symmetrical stunt model wing section; it fizzled as did next two versions.

Blunted nose was first big design change, plus up-thrust engine. This version glided "slightly" under power. With



This "Anti-Grav"

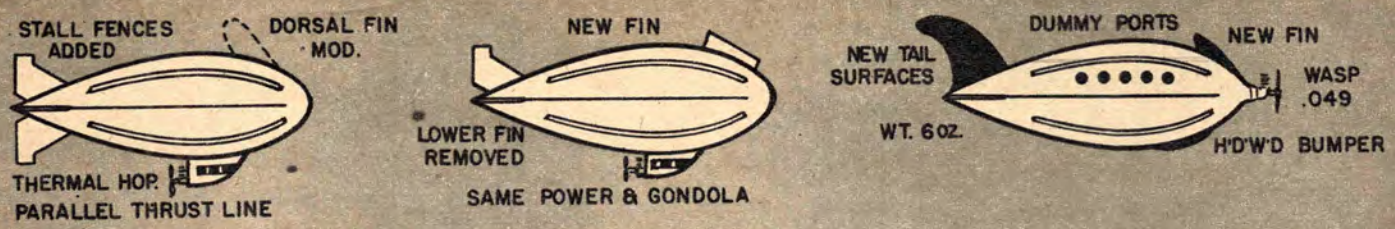
MARTIAN SPACE SHIP

Flies Without Wings!

No gas balloons inside this airborne guppy's fuselage

By ROY L. CLOUGH, JR.

These completely unretouched photos show the New Hampshire clouds and countryside which have been subjected to Clough's out-of-this-world craft.



addition of stall fences and dorsal fin it began to act more like a space vehicle than blimp. Final version of the weird Clough-craft is as you see it here and in working drawings below. Blimp motif has gone and engine is in the nose.

■ It. looks like some weird anti-gravity space ship out of a science fiction TV show as it buzzes buoyantly overhead, its torpedo-shaped hull rising mysteriously up through the air without any visible means of support.

It we tinker a bit with the adjustments we can send it zipping along in level flight at terrific scale speeds, or we can make it all but hover with its projectile nose at a 50 degree angle. Under power it is both stall and spin proof, assuming whatever climbing angle the power output and elevator settings call for.

When power stops, what happens?

Now there's the payoff . . . when the engine stops it does not plunge. It drifts slowly and gently back to earth, alighting so easily we have never found it necessary to embellish the design with anything so old-fashioned and crude as a shock-absorbing landing gear.

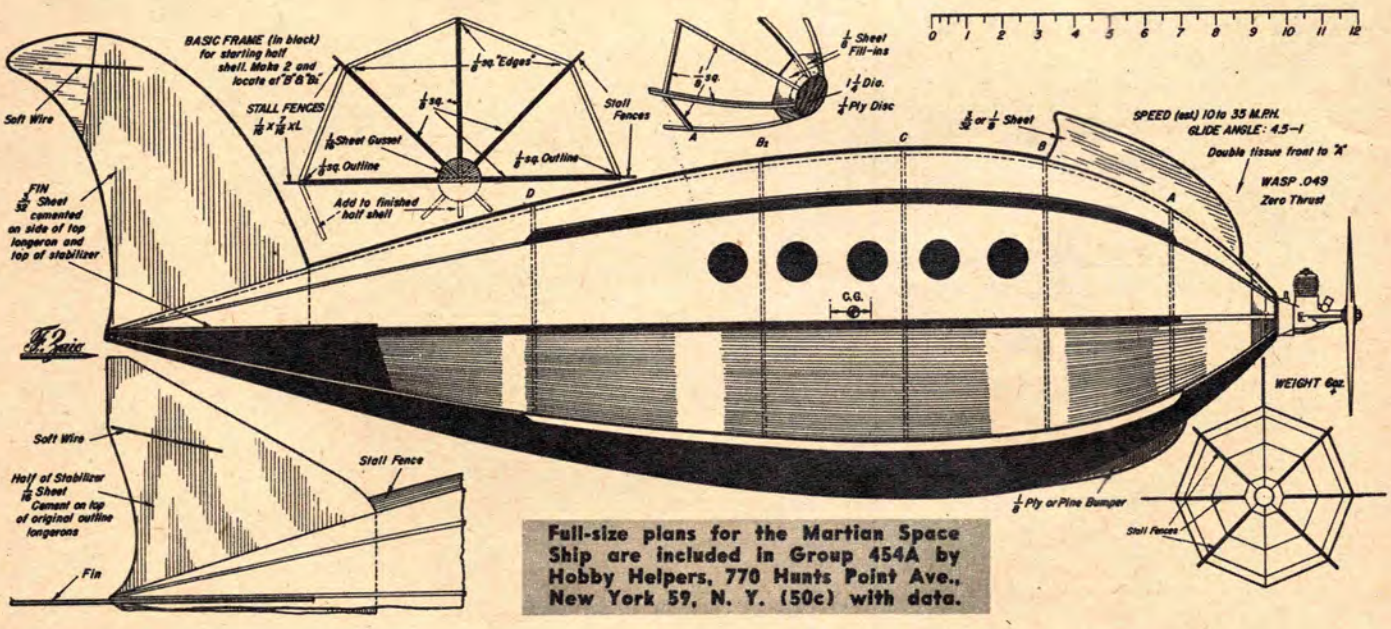
Okay, then, what holds it up? There isn't a bit of helium in it. It doesn't need a lifting gas anyway, because it is purely and simply, from stem to stern, and despite its lack of wings, a heavier-than-air flying machine.

And that, by definition, means it obtains its lift by forward motion through the air, and not by some amazing anti-gravity device. As a matter of fact the way it works is sufficiently amazing anyway: it flies unsupported by wings or rotors, yet is more stable than machines using either, and manages to retain many of the desirable qualities of each.

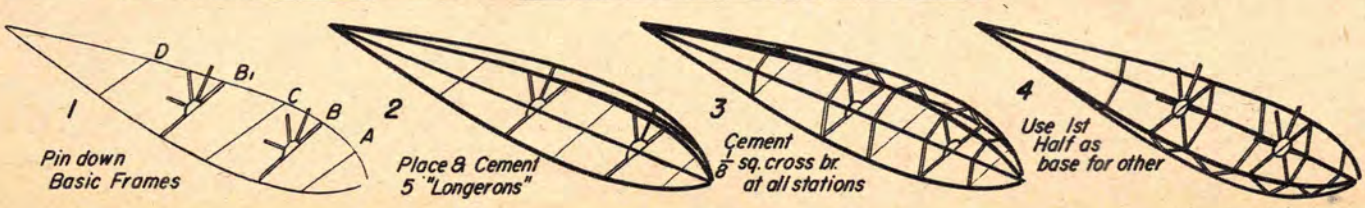
We have always wanted to build a free flight blimp. A lighter-than-air job, however, wouldn't be practical. So we started on a "heavier-than." The basic section was symmetrical, of course, but swelled up a bit from the usual stunt model section. We used the half shell construction method and it went together quickly and easily.

After completing the experiments sketched out above we had something that flew quite well—but it no longer resembled a blimp, and then it was at this point in our work we recognized, a bit belatedly perhaps, that what we had here was not a model blimp flying "static" but a new type of aircraft that closely resembled the popular notion of a space ship. And it turned out in line with the dynamics of the thing that re-arranging the powerplant and tail surfaces for maximum efficiency made it resemble almost perfectly the type of flying dingbat that the people who see flying saucers have reported a number of times.

An ancient Wasp flew it beautifully from level flight through all climbing angles the engine could handle, and when the power stopped the drift-down was steady and gentle. Its ideal glide angle does not, of course, compare with a high aspect ratio sailplane and is not intended to. It can be adjusted to do about 4.5 to 1 at a fairly fast rate. Personally we prefer a sharper angle with very low forward speed. This permits long engine runs to very high altitudes with little chance of loss.



Full-size plans for the Martian Space Ship are included in Group 454A by Hobby Helpers, 770 Hunts Point Ave., New York 59, N. Y. (50c) with data.

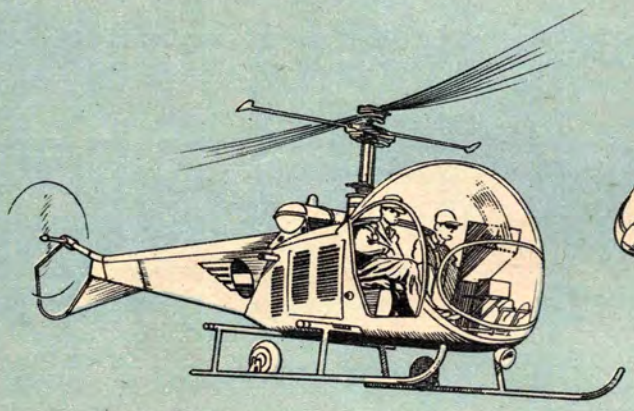


AIR PROGRESS

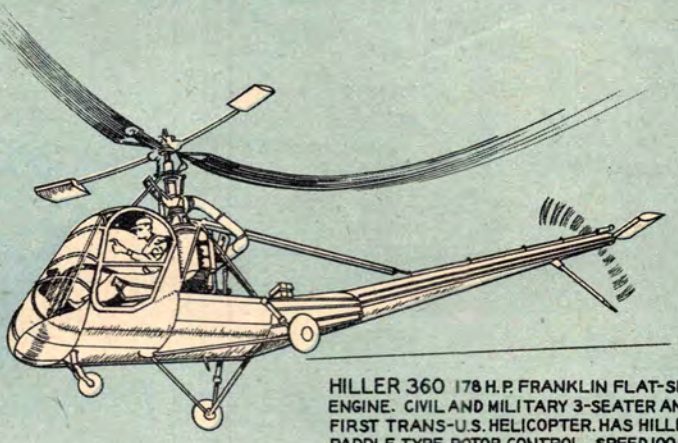
By DOUGLAS ROLFE

American Helicopter Revue

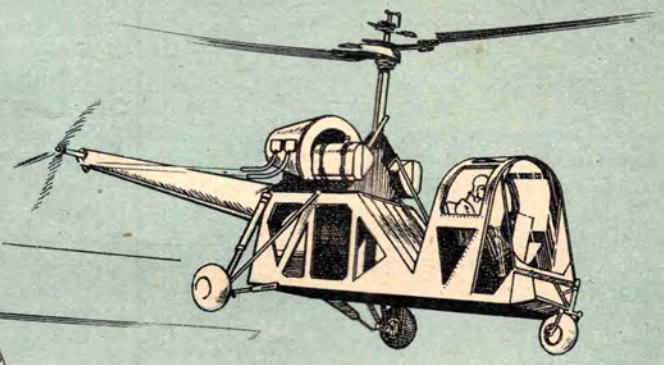
Part III—PRESENT-DAY TYPES



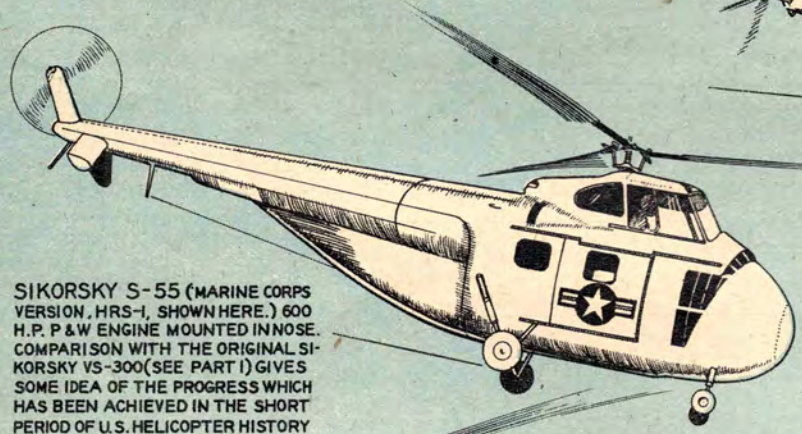
BELL 47D-1 178 H.P. FRANKLIN FLAT-SIX ENGINE. CIVIL AND MILITARY 3-SEATER. TOP SPEED 98 M.P.H. BELL'S PATENTED STABILIZER BAR MAKES IT ONE OF WORLD'S MOST DOCILE AND MANEUVERABLE TYPES TO DATE



HILLER 360 178 H.P. FRANKLIN FLAT-SIX ENGINE. CIVIL AND MILITARY 3-SEATER AND FIRST TRANS-U.S. HELICOPTER. HAS HILLER PADDLE TYPE ROTOR CONTROL. SPEED 100 MPH.

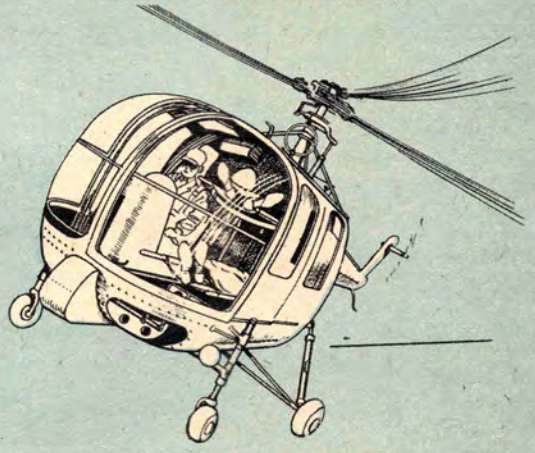


SEIBEL S4A ARMY DESIGNATION YH-24 125 H.P. LYCOMING ENGINE. MAXIMUM SPEED 75 M.P.H. LEAST ATTRACTIVE AS REGARDS CONFIGURATION AND PERFORMANCE IN THE PRESENT CROP OF U.S. ROTARY-WING CRAFT



SIKORSKY S-55 (MARINE CORPS VERSION, HRS-1, SHOWN HERE.) 600 H.P. P&W ENGINE MOUNTED IN NOSE. COMPARISON WITH THE ORIGINAL SIKORSKY VS-300 (SEE PART I) GIVES SOME IDEA OF THE PROGRESS WHICH HAS BEEN ACHIEVED IN THE SHORT PERIOD OF U.S. HELICOPTER HISTORY

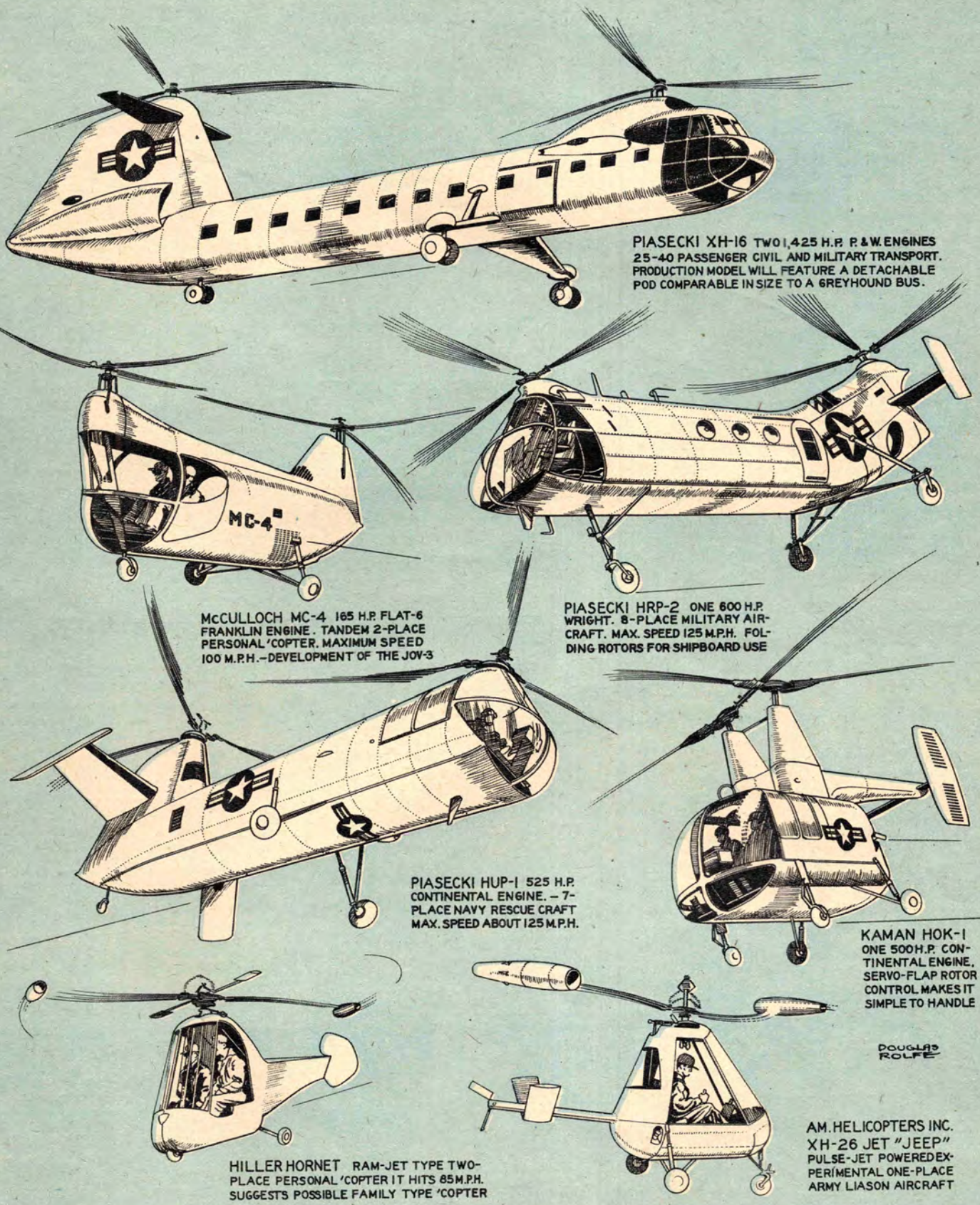
◀ GYRODYNE 2C 450 H.P. P&W ENGINE. THIS NAVY 7-SEATER UTILISES NORMAL AIRPLANE RUDDERS FOR TURNS



SIKORSKY YH-18A 245 H.P. FRANKLIN FLAT-SIX ENGINE. ARMY FIELD FORCES RESCUE AND AMBULANCE CRAFT.— IT IS MILITARY VERSION OF THE FAMED S-52/2

All forms of powered rotary wing design had been explored within the first decade after Sikorsky's VS-300 made its flight in 1939 (as detailed in the previous issue). Present-day trends in the U. S. are exemplified on these pages and show that the anti-torque tail rotor type is still predominant, with the tandem rotor type running it a close second.

It is safe to assume that future helicopters will continue to range in size from the very small to the very large—very much larger than anything produced to date, most likely. It is also safe to predict that jet power will finally supersede


PIASECKI XH-16 TWO 1,425 H.P. P. & W. ENGINES 25-40 PASSENGER CIVIL AND MILITARY TRANSPORT. PRODUCTION MODEL WILL FEATURE A DETACHABLE POD COMPARABLE IN SIZE TO A GREYHOUND BUS.
MC-4
McCULLOCH MC-4 165 H.P. FLAT-6 FRANKLIN ENGINE. TANDEM 2-PLACE PERSONAL 'COPTER. MAXIMUM SPEED 100 M.P.H.—DEVELOPMENT OF THE JOV-3
PIASECKI HRP-2 ONE 600 H.P. WRIGHT. 8-PLACE MILITARY AIRCRAFT. MAX. SPEED 125 M.P.H. FOLDING ROTORS FOR SHIPBOARD USE
PIASECKI HUP-1 525 H.P. CONTINENTAL ENGINE. — 7-PLACE NAVY RESCUE CRAFT MAX. SPEED ABOUT 125 M.P.H.
KAMAN HOK-1 ONE 500 H.P. CONTINENTAL ENGINE. SERVO-FLAP ROTOR CONTROL MAKES IT SIMPLE TO HANDLE
DOUGLAS ROLFE
HILLER HORNET RAM-JET TYPE TWO-PLACE PERSONAL 'COPTER IT HITS 85 M.P.H. SUGGESTS POSSIBLE FAMILY TYPE 'COPTER
AM. HELICOPTERS INC. XH-26 JET "JEEP" PULSE-JET POWERED EXPERIMENTAL ONE-PLACE ARMY LIASON AIRCRAFT

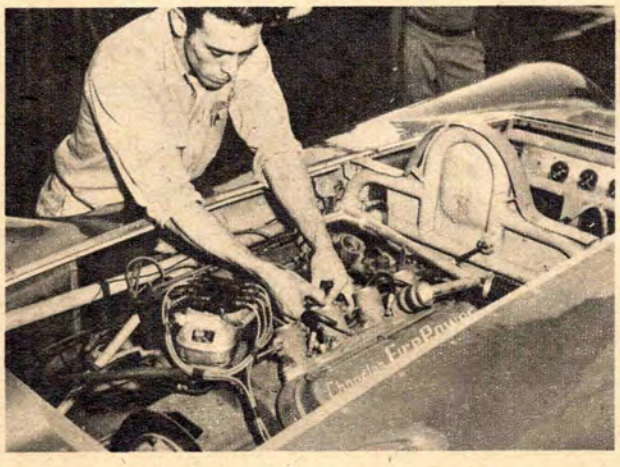
piston-engine power with its complicated gearing and excessive cost and weight.

The advent of a simple jet-powered small helicopter with simplified control system should eliminate many of the complications connected with most helicopters in use today. The Kaman tab control for rotors is already a step in the direction of simplification. Then, if the demand for personal helicopters develops as it logically may, mass production will probably bring the small helicopter within the price range of a good auto and the oft-heralded air age will really arrive.

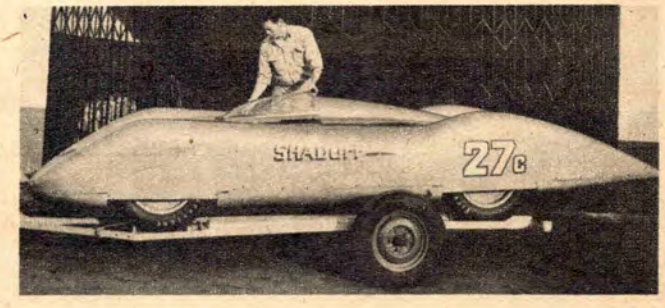
ON THIS MONTH'S COVER

Shadoff Chrysler Special before run at Bonneville. In cockpit: Mel Hooper who drove, Shadoff, lt., Bob Taylor, metal expert, rt.

California, . . . Capital of the Home-Bilts captures Speed Records



Ray Brown adjusts fuel injector on 325 hp Chrysler Firepower. Engine sleeved down from 321 to 302 cu. in. Right: car on trailer. Body is fiberglass. Racer weighs only 1850 lbs. ▸

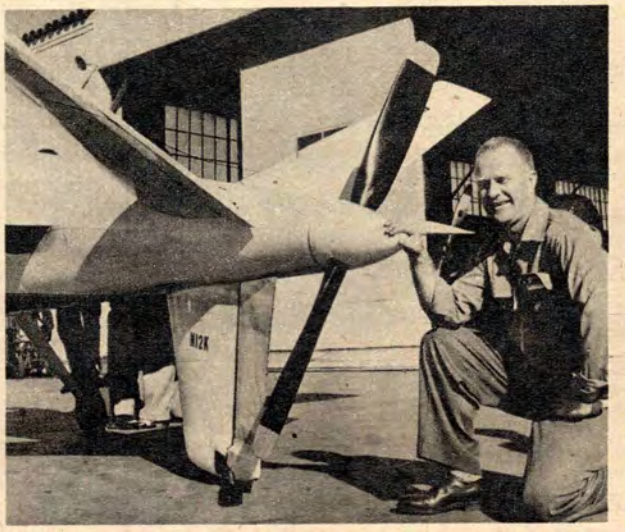


■ Custom-built speedsters, whether auto, plane or boat, are usually expensive to build. That's why it normally takes a rich sportsman to foot the bills that go with record-breaking performance. Yet some competition racers can be built on a shoestring as evidenced by at least two Southern California groups.

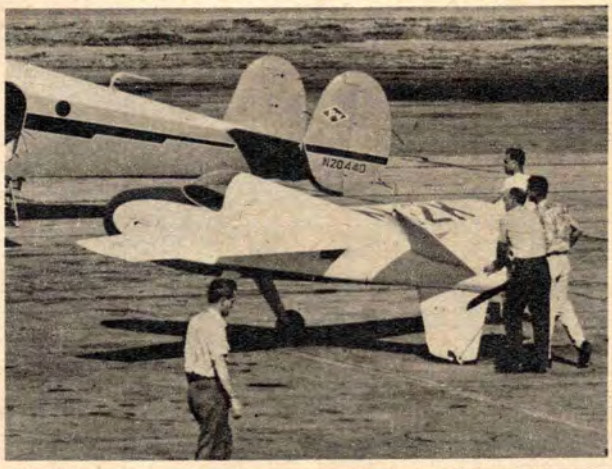
Witness this streamlined racing car which last September established a world speed record for "C" class automobiles (183 to 305 cu. in. displacement engines) of 236.36 mph for one mile, and five other marks up to 10 miles. The car was awarded the Maremont Trophy for the Best Engineering Design.

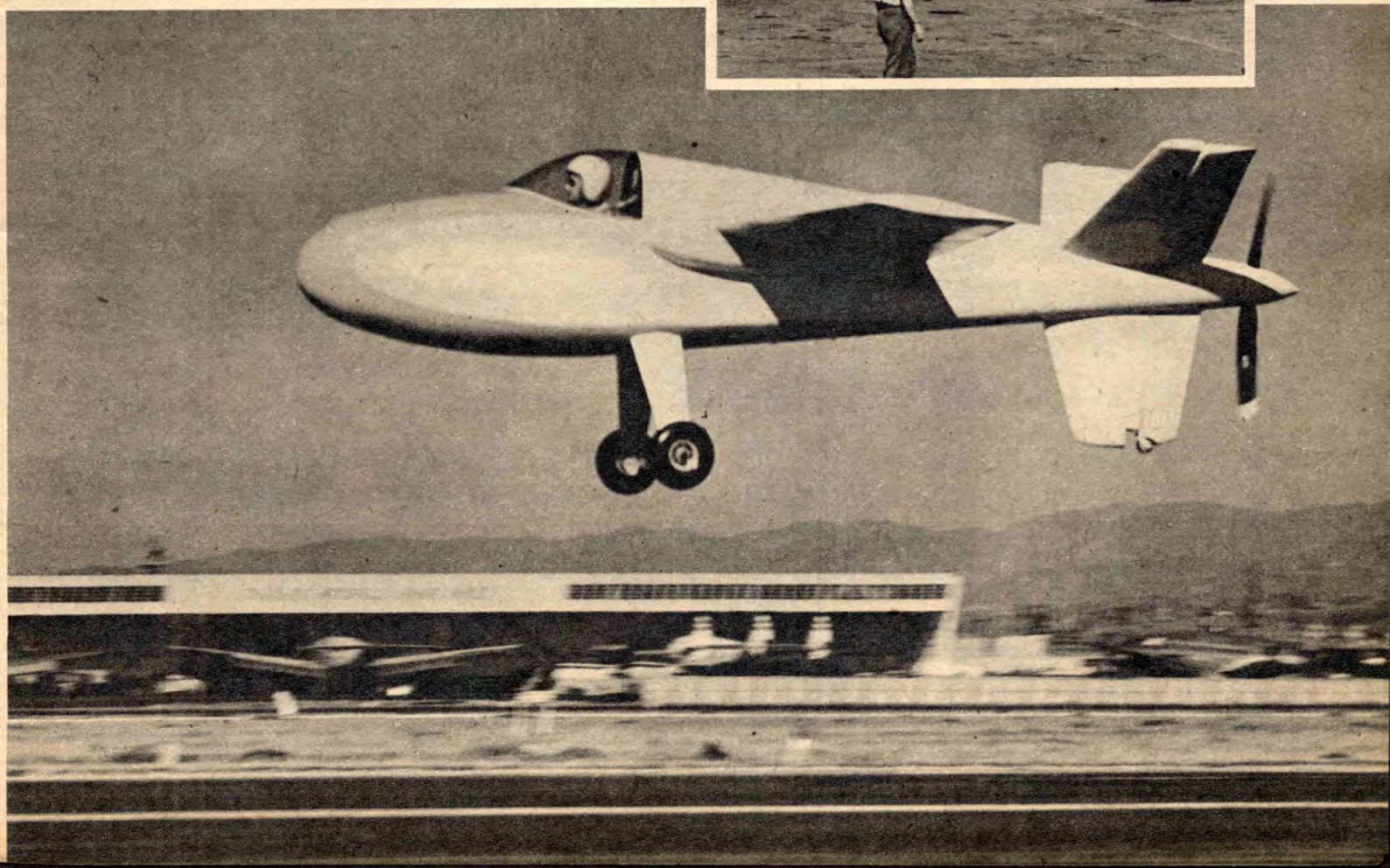
The Shadoff Special, named after the man who financed it, a Chrysler-Plymouth dealer of Pomona, Calif., is powered by a sleeved-down Chrysler Fire-Power engine located behind the driver. It was designed and built by Mal Hooper and Ray Brown in a Glendale garage. Body designer was Dean Batchelor. The cost was $8500; it took a year to finish. Campbell's Bluebird cost close to $1 million.

The other group, consisting of two aeronautical engineers, Walter Fellers and Ron Beatty, designed the novel sport-racing pusher, Sierra Sue. The actual construction was done by the Acme Aircraft Co. of Torrance, Calif., as the boys did not have the necessary metal-working equipment to do the job. Six thousand hours' engineering and 4000 hours of structural work went into the plane for a total cost of $10,000—a modest figure by aircraft cost standards. The little 20 ft. span "tail twister" has a cruising speed of 180 mph and a top speed of 190 mph on its 85 hp Continental engine.



One of Sierra Sue's designers, Walt Fellers. Plane's engine behind pilot drives prop via long shaft worked out by helicopter engineers. Unlike midget racers, Sue has ample cockpit, was planned as cross-country business or sport plane.





Announcing
Air Trails HOBBIES
Home and School Shop Project Awards

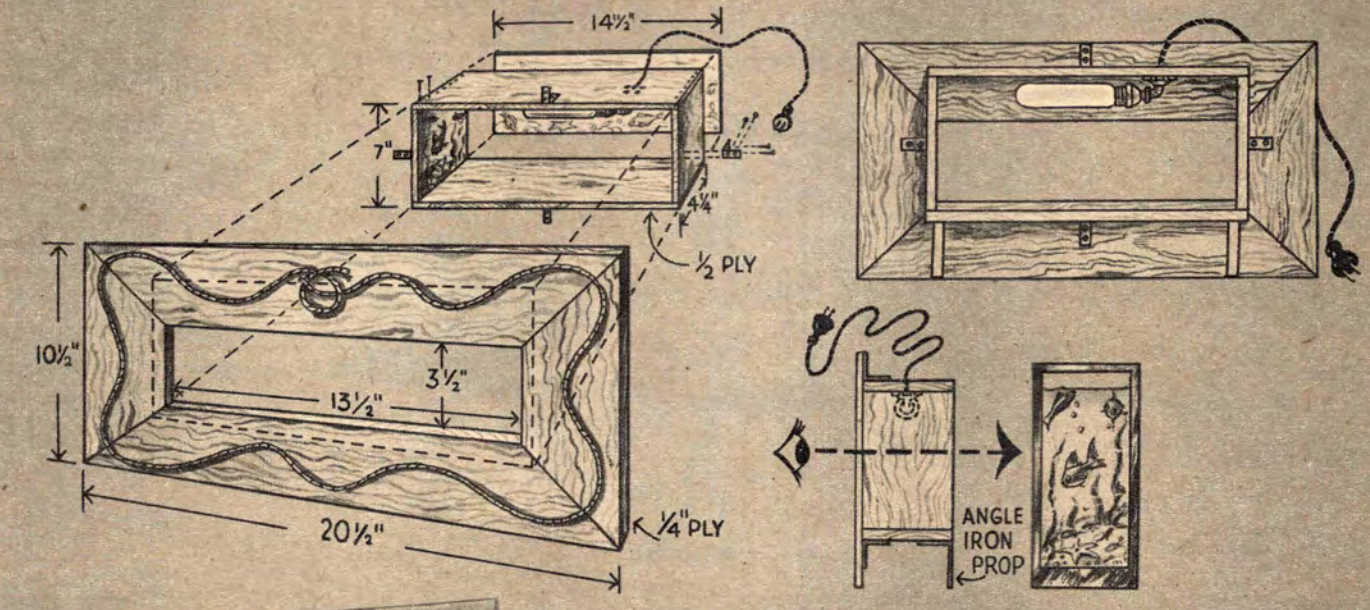
$50 to the Talent Reporter

■ Each issue we will present a $50 cash award to the individual who has brought to our attention the winning original shop project submitted by a school shop teacher or a home shop craftsman. The "Talent Reporter" can be of any age as can be the winning shop designer whose project is selected as best for the month. The project should be an item of special usefulness or decorative value and within the abilities of the average shop student or home workshop fan. Rare or hard-to-obtain materials should be avoided. Send your nominations to Shop Project Award, c/o Air Trails HOBBIES For Young Men, 304 East 45th Street, New York City 17.

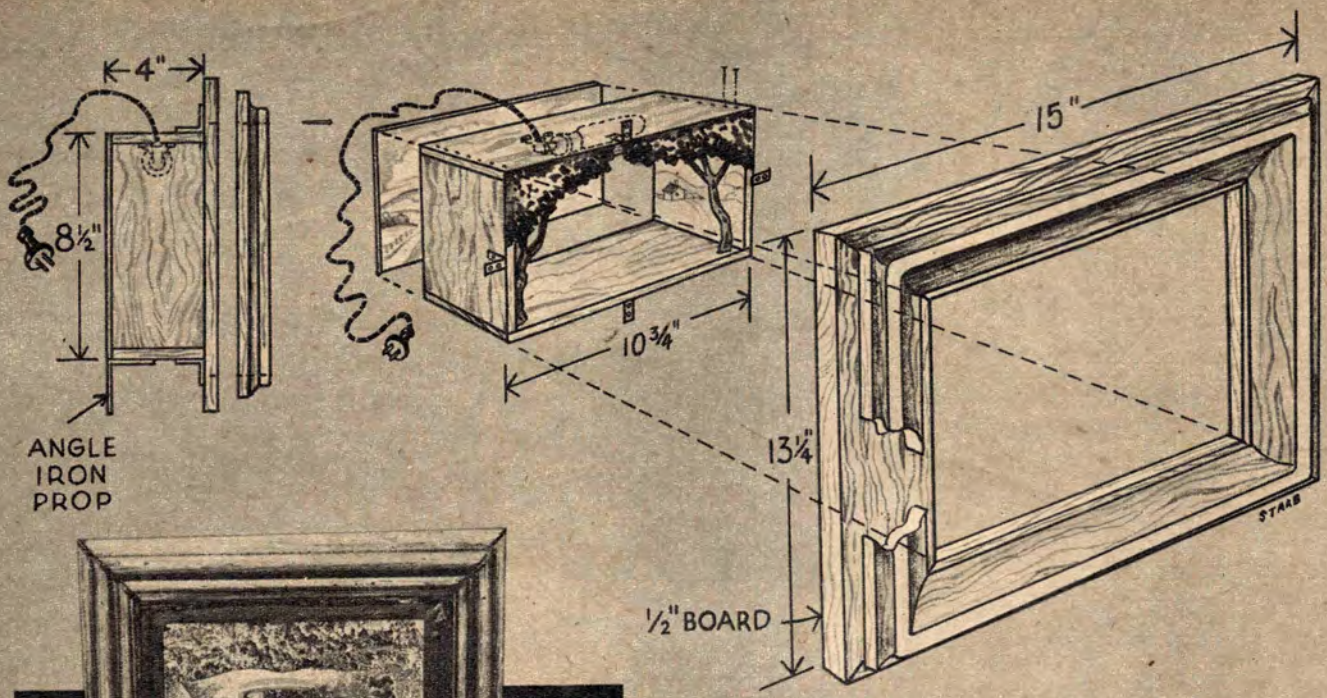
$50 to the Teacher or Craftsman

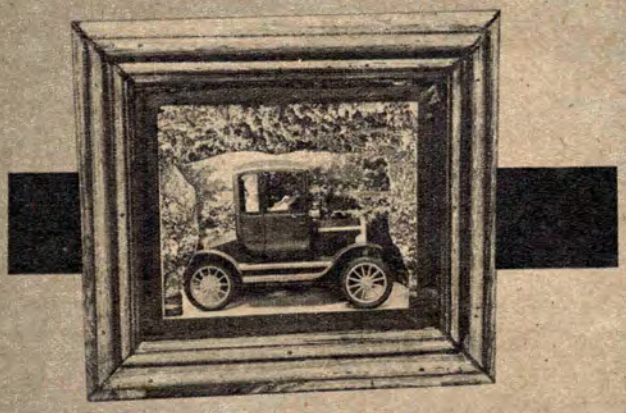
■ Each issue we will present a $50 cash award to the school shop teacher or home shop craftsman whose winning original shop project has been brought to our attention by a Shop Project Talent Reporter. If the editors find your project of sufficient interest to present here after it has been called to their attention by a Talent Reporter, you will get full information on how to prepare rough drawings. The sample projects illustrated should start you thinking—what type of item can be completed in the school or home? is it of special interest to young fellows with mechanical aptitude? will it tie in with their hobbies?

PROJECT No. 1—Illuminated Shadow Box for Displaying



For your prized ship or submarine model (like the Revell Nautilus shown) here's the perfect setting: a long, narrow lighted stage attractively framed by a nautical border on which you can affix some ship's cord. Background of underwater scenes may be specially prepared, or clipped from color magazine illustrations or ads. If there's a rectangular fish tank in the house, leave off back of shadow box and stand it against side of tank.

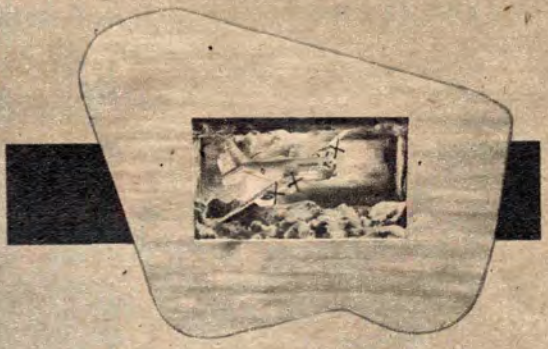


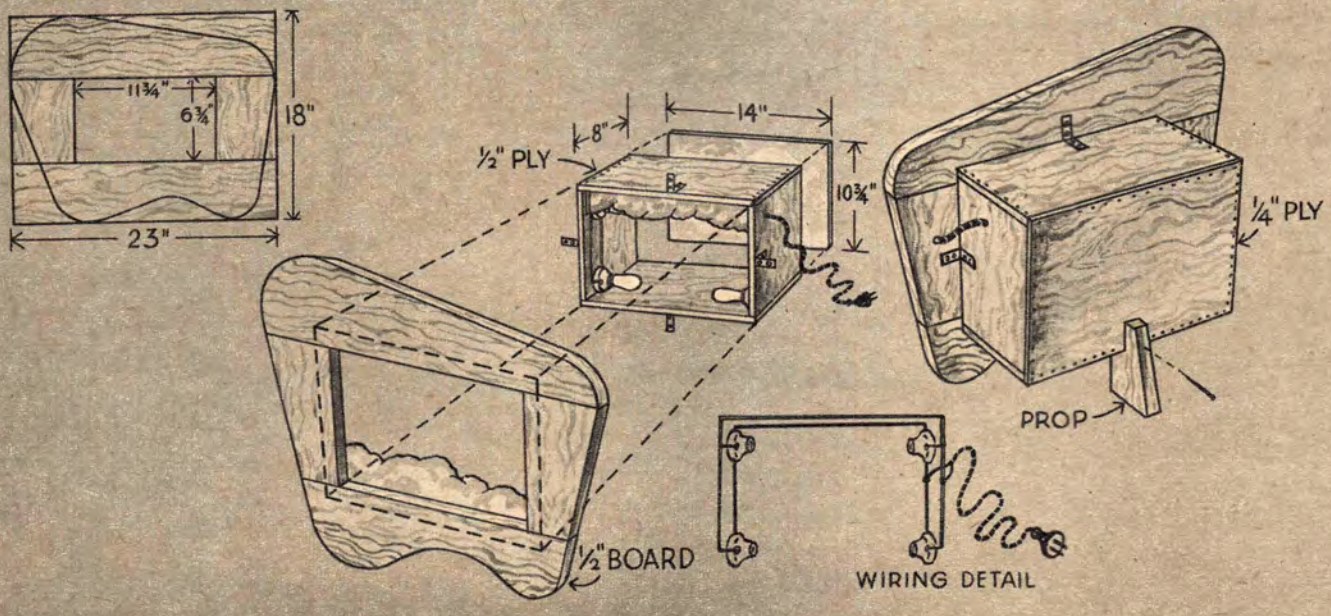


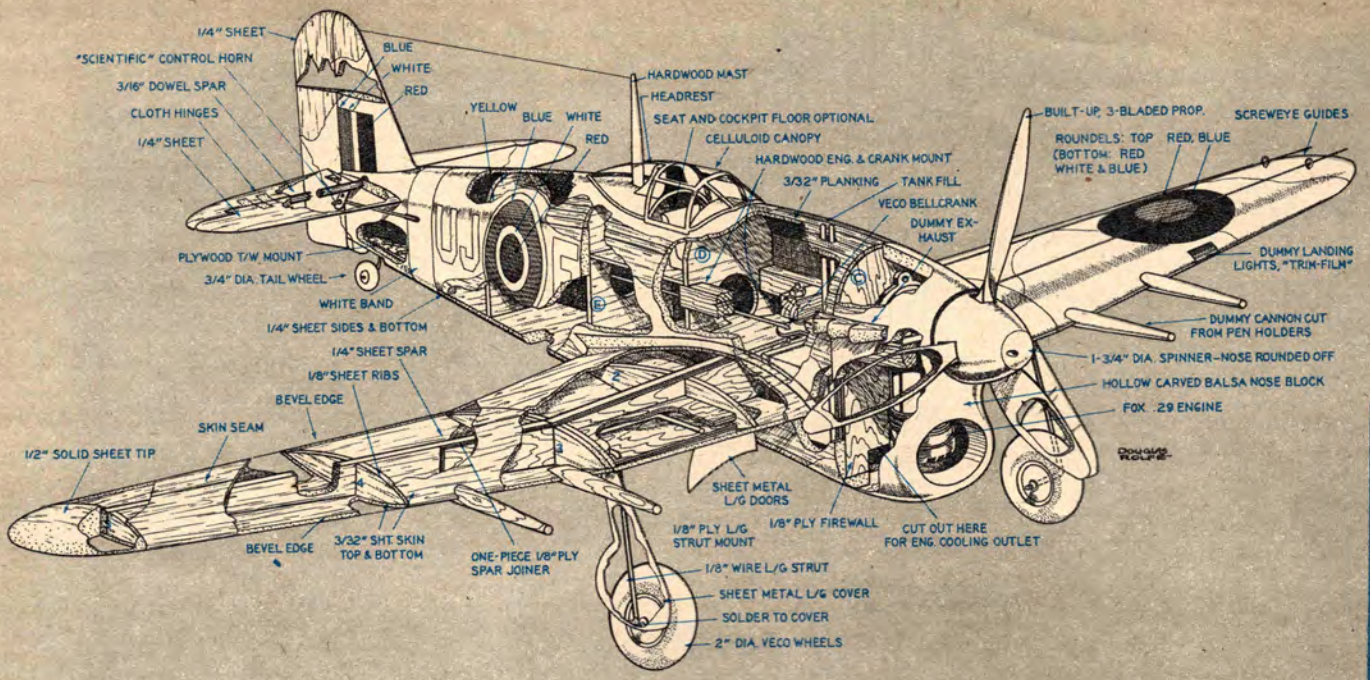
Another favorite among scale model plastic kits is Revell's Model T. This requires a different shadow box from a submarine or boat, so we go to the dimensions shown. Picture frame molding nailed to flat facing boards produces an authentic old-time effect. Foliage is clipped from ads, pasted on cardboard, then set in like stage scenery. For tree trunks, cement in real twigs.

Your Scale Models

When you come to airplanes the wingspan forces you to use a deep shadow box, but the end result is well worth the extra material required. Here Allyn's plastic Boeing Stratofreighter flies high above a fleecy layer of clouds as the sky stretches off in the background. Again—those are just color illustrations, mounted on cardboard and positioned in the box. Realistic, though.







Hawker Typhoon

Famous British fighter of World War II in AT's popular ¾ inch to foot scale!

By WALTER A. MUSCIANO

■ This successor to the British Hurricane fighter was one of the best-kept military secrets of World War II. Large numbers of these big single-seaters were in action before their name or any other information was released. An immediate success, the Typhoon exacted a tremendous toll of enemy planes, tanks, trucks and even V-1 Buzz Bombs.

A huge 24-cylinder, 2240 horsepower, liquid-cooled, in-line, Napier-Sabre engine propelled the craft to a top speed of 416 miles per hour. Engine coolant radiator, oil cooler, and air intake are all located in the single opening in the nose just below the spinner, thereby increasing speed through this reduction of parasite drag.

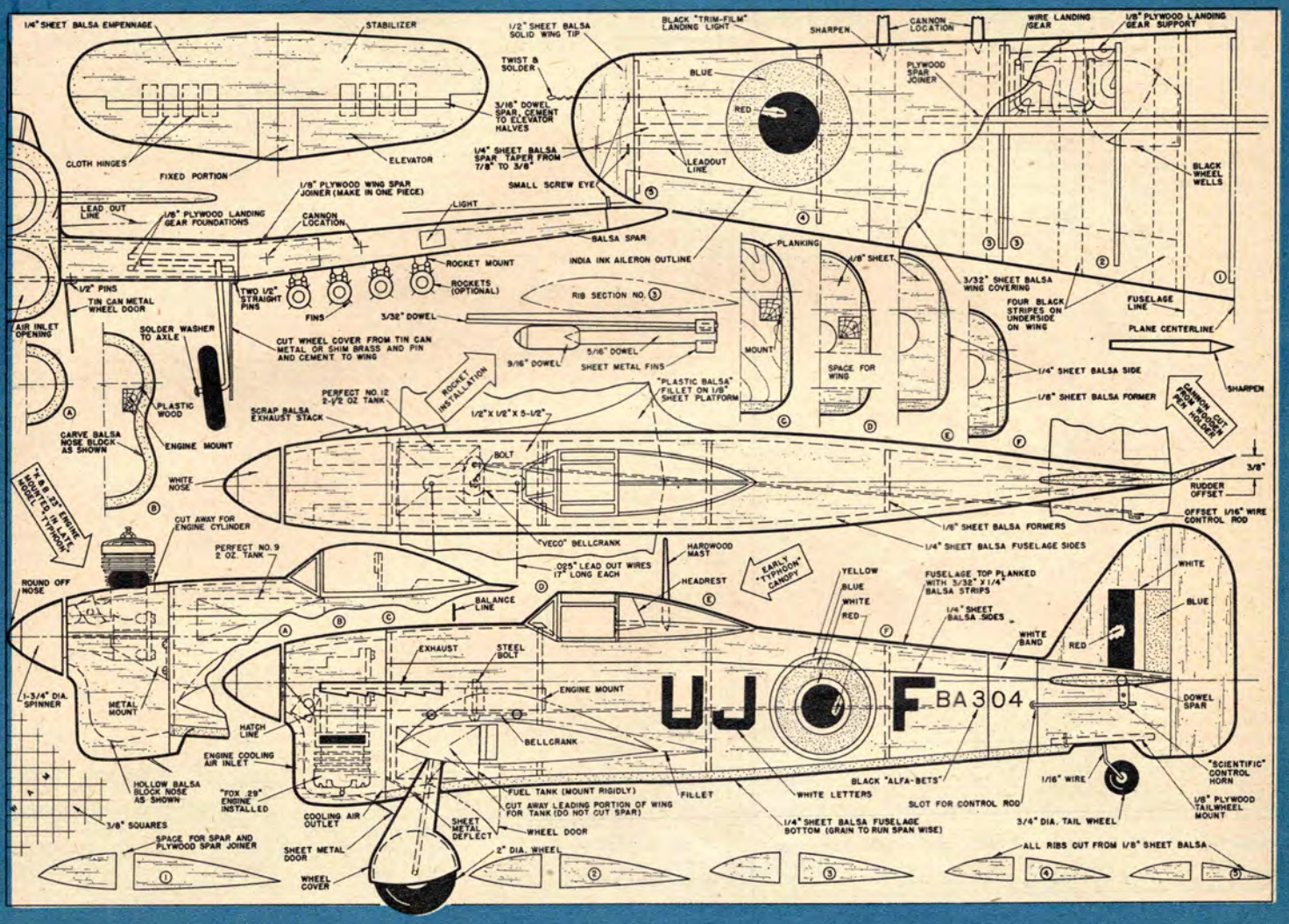
Two versions of the Hawker Typhoon were used: the "1a" and the "1b." The major difference between these two models was the armament which consisted of twelve .303 caliber Browning machine guns in the wings of the "1a" and four 20-mm Hispano Suiza cannon in the wings of the "1b." Considerably more planes of the latter model were used than of the former. Large rockets and bombs supplemented the guns on both models.

The Typhoon provided basic data that sired the Tempest, new Fury and Sea Fury, which are some of the fastest propeller-driven planes in the world today. Both the early and late model Typhoons are

illustrated on the plans for the builder's convenience.

Our Typhoon can take most engines from .14 to .29 cu. in. displacement. Powered with a .29 engine, the prototype model stepped along at a lively pace although not uncomfortably fast. With approximately 128 sq. in. of wing area and a fully enclosed engine, there is no reason why this Typhoon replica could not be entered in team racing competition. Building instructions are on the full size plans.

Deadly rocket firing Typhoon taking off on June 6, 1944 for raid on enemy radio installations near Boulogne, France.



Unusual lines of the big Typhoon have been modeled faithfully as unretouched photo of Mr. Musciano's model indicates.

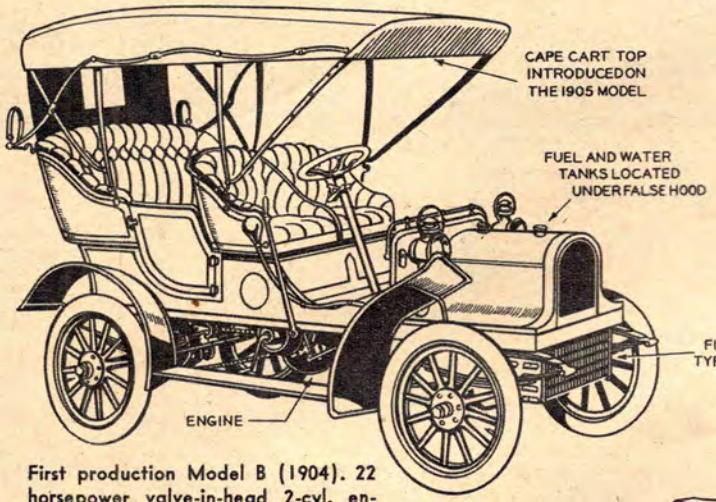
Full-size plans are available as part of Group 454 from Hobby Helpers, 770 Hunts Point Avenue, New York 59, N. Y. (50¢).

AUTO Progress

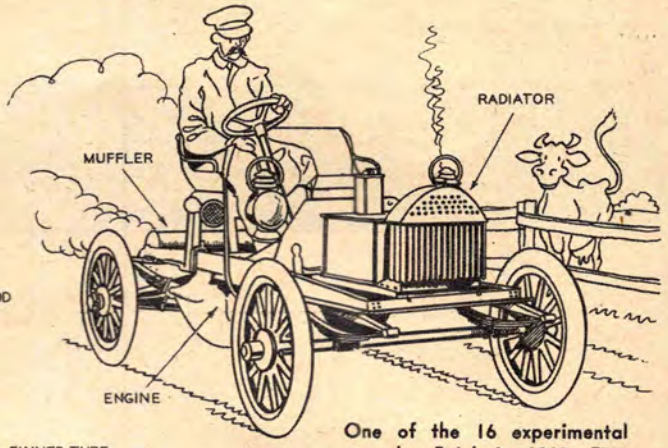
By DOUGLAS ROLFE

THE BUICK STORY

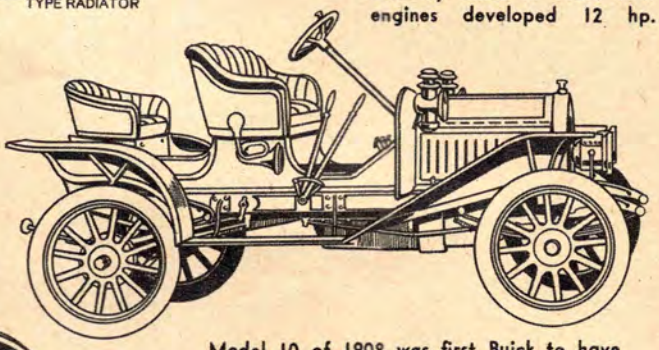
Born in 1904, this famous firm pioneered in auto engines and has influenced design


CAPE CART TOP INTRODUCED ON THE 1905 MODEL
FUEL AND WATER TANKS LOCATED UNDER FALSE HOOD
FINNED TUBE TYPE RADIATOR
ENGINE

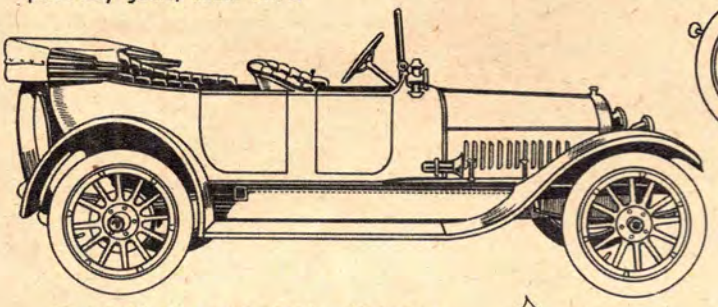
First production Model B (1904). 22 horsepower valve-in-head 2-cyl. engine, two speeds forward and reverse, planetary gears, chain drive.



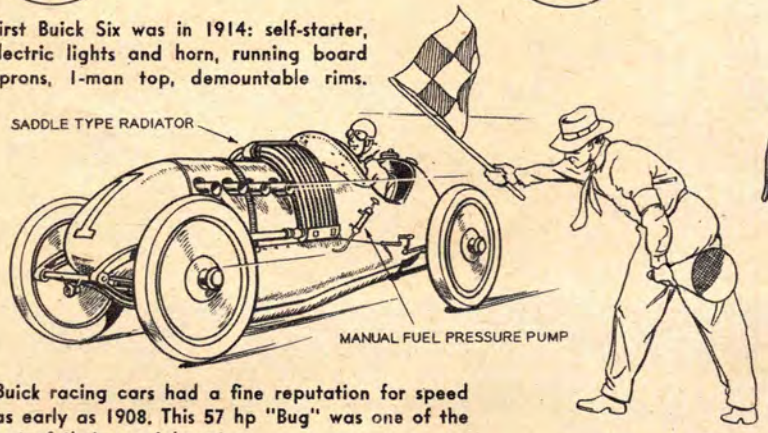
One of the 16 experimental cars by Buick in 1903. First engines developed 12 hp.



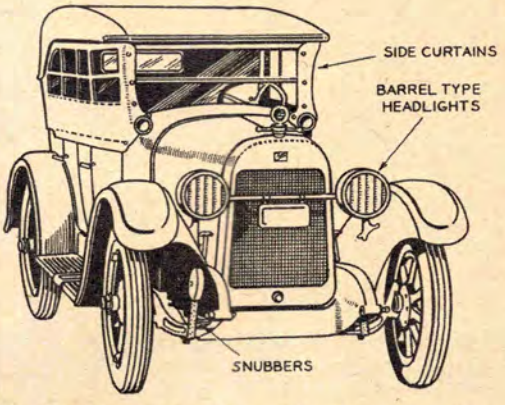
Model 10 of 1908 was first Buick to have engine in front. Regular gear box and shaft transmission. Buick sales soared to over 10,000 in 1909.



First Buick Six was in 1914: self-starter, electric lights and horn, running board aprons, 1-man top, demountable rims.



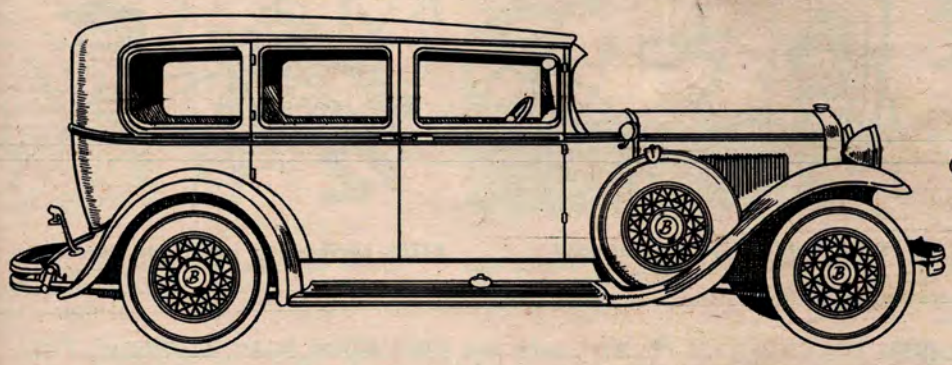
Buick racing cars had a fine reputation for speed as early as 1908. This 57 hp "Bug" was one of the last of their special racers.



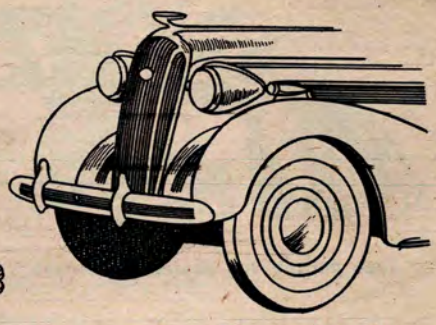
Radiator and hood line of the Six underwent a drastic change in 1923. Four-wheel brakes adopted following year.

The history of the Buick Company, now a division of General Motors, goes back a full half century. David Buick having developed one of the first successful gasoline engines (Marr), managed to interest capital in Flint, Michigan, for the purpose of producing automobiles using this engine. In the first year of operation the company manufactured only sixteen cars—all of them of an experimental nature. The Marr engine around which these cars were built was a two-cylinder, horizontally opposed affair boasting all of 12 horsepower.

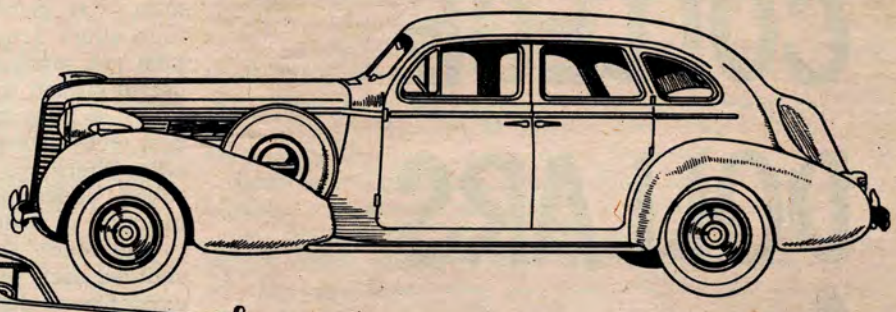
In 1904 the first production model Buick appeared. It still had a two-cylinder engine but significantly enough



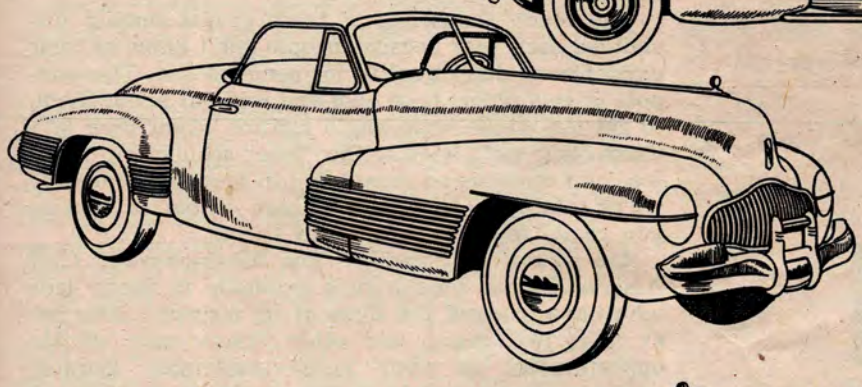
Series 90 Limousine of 1931 marked Buick's entry into 8-cylinder field. Synchro-mesh transmission, lavishly trimmed with chromium.



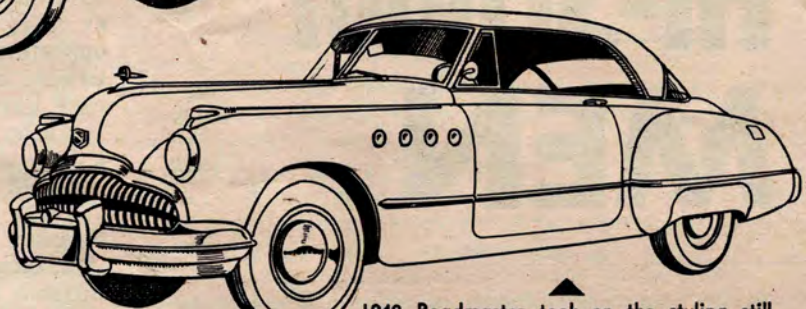
Radiator grille and front end details of 1936 model Roadmaster.



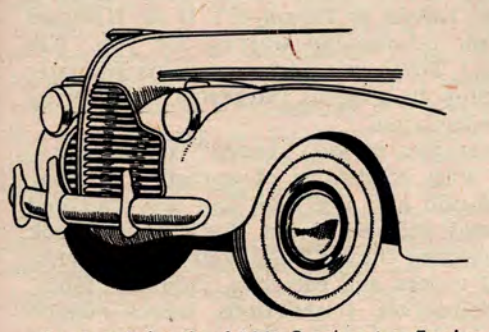
Roadmaster underwent a further change in 1937. Featured new Dynaflash engine, all-coil springs for suspension.



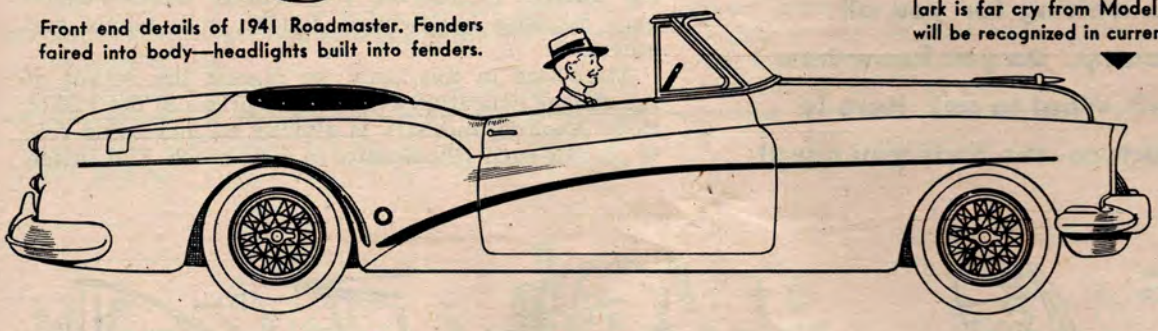
"Car of the Future" of 1938 (left). Novel styling features were later incorporated in production models.



1949 Roadmaster took on the styling still popular in many makes today. Also, famous Buick ventiports appeared. Last year's Skylark is far cry from Model B. Many features will be recognized in current production cars.



Front end details of 1941 Roadmaster. Fenders faired into body—headlights built into fenders.



DOUGLAS ROLFE

this was a valve-in-head motor developing 22 horsepower. The Model B had planetary transmission and chain drive to the rear wheels. This car, or variants of the basic design, remained in production until 1910. Other models were built during this period, notably the 1908 model which sold for about $1,000.

The firm's first "six" was brought out in 1914, and thereafter it produced fours only in limited quantities. The initial Buick eight was introduced in 1931. Present-day Buick Roadmaster—powered by 200 hp engine—is in startling contrast to the little two-cylinder Model B which chugged off the assembly line in 1904.

Free tuition for newsboy carriers

Was your Dad in the service?

$2200 engineering grants at Carnegie

COLLEGE DOLLARS for Hi-School MEN

There are MILLIONS of them in free scholarships waiting for you all over the country. Do you know how to find them? What to do? Here is the whole picture—the facts you need!

■ Who says you can't afford to go to college? *You* least of all should be the one to take a defeatist attitude about acquiring the higher education that will give you more earning power and make you a more useful citizen in later life. For all around you lie the funds to help in attaining your goal, and one of the best well-springs of such aid is in scholarships available. There are over 140,000 annual scholarships for college education to be had in this country, amounting in value to over $30,000,000.

And many thousands of these grants remain unclaimed each year because people don't know of their existence or don't qualify for some reason. The purpose of this report is to help you find out about them, to get the whole wide-angle picture. Right here let's make clear we'll stick to the "true" scholarship that's free and requires no repayment in money. Point two: we're talking to you men in high school as well as you young fellows on your way there.

Are you a golf caddy? The Massachusetts Golf Association has scholarships available to needy lads who have trudged the links of its member clubs for at least two years, and other states have similar opportunities. Is your name Anderson, Borden, Bright, Downer, Haven or Pennoyer? If so, Harvard may have a free scholarship waiting for you. Are you a Boy Scout? This organization presents annually a $500 scholarship to a Scout interested in entering the field of conservation.

These are examples of the "special" scholarship—meaning ones with conditions of ancestry, occupation, club affiliation and the like, and are scattered through the many sources of aid. Let's have a look at these main sources: they include your state government, fraternal orders and societies, industry, labor, the colleges themselves, foundations, banks (which may dispense endowment funds), individuals and others.

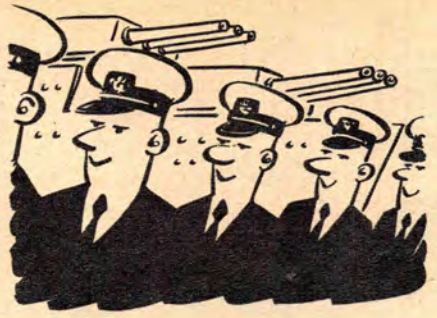
Elsewhere in this issue we discuss the details of the college education available as prizes in the Fisher Body Awards. Industry is playing an increasing role in placing such scholarships in your reach. The Josten

Do you live in coal regions?

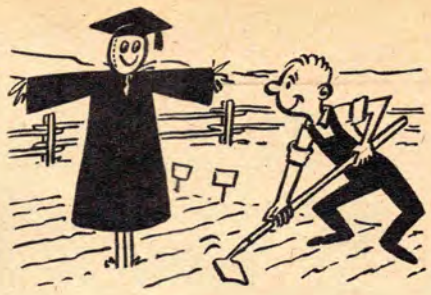
Churches award them too

Is your father a fisherman?

Can you say: "I worked after school"?



Get sample questions from Annapolis



Bushels of scholarships for 4-H'ers

Co. of Owatonna, Minn., provides funds for $300 national scholarships for high school seniors. The American Institute of Steel Construction, Inc. has about 10 in civil engineering worth $1000 each. No doubt you are familiar with all the announcements about the rich scholarships in connection with the Bausch & Lomb Optical Co.'s science awards, and those connected with Westinghouse's Science Talent Search program. Have you also investigated, for instance, the details of this latter company's 10 scholarships of $2,200 each at Carnegie Institute of Technology for high school seniors?

A number of large national concerns like General Electric and Ford Motor have scholarships for children of employees—often including those of *affiliate* companies. Johnstown Coal and Coke in Pennsylvania awards $500 annual, renewable scholarships to children of those on the payroll, and many local or regional companies have similar programs. *Tip:* Ask your Dad to investigate all possibilities of this kind at the plant or office where he works.

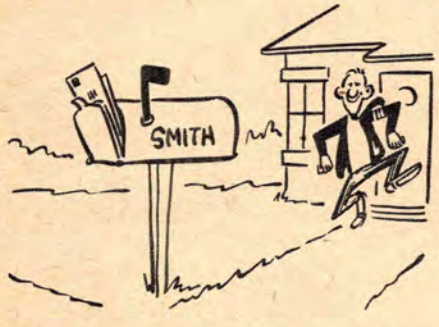
Your state is vitally interested in helping you get more education. Maryland has over $350,000 in state scholarships, many in engineering. New York's $4 million plus fund includes more than 1500 university scholarships alone, worth $350 a year for four years. In addition to those awarded on a general competitive basis, state scholarships in some cases may be the appointment privilege of members of the state legislature, as in Pennsylvania and Louisiana. If you want to go into agriculture, teaching or government work, you'll find ready scholarship aid in expanding state plans, as in Florida and Virginia. Illinois has scholarships worth up to $600 per year for boys, in the military schools there which are considered posts in the Illinois National Guard. *Contact your State Department of Education to learn of all the opportunities open to you.*

Are you interested in going to a particular college or university? If so, do you know about all the scholarships that institution has on tap for which you might qualify? Practically all of them have grants for prospective students—in fact, the schools themselves are one of the largest sources of those millions given for higher education. Harvard alone has more than 600 scholarships of all kinds. And don't hesitate to consider the "big name" schools, just because you have little money: *the larger privately endowed colleges have the most funds to aid students.*

Does your father belong to the Elks, Redmen, Lions, Kiwanis? Fraternal orders, along with many other types of organizations like clubs, churches, labor unions and societies form a growing source of scholarships. Some may not even require affiliation; the Elks' well-known awards for college education, ranging from $800 down, may be competed for by any high school student within the Order's jurisdiction. Similarly, the $1000 scholarships (plus others of lesser amount) to any college of your choice given as prizes in the Knights of Pythias national public speaking contest have no stipulation as to membership. In far greater number of cases the fraternal orders conduct a scholarship or student aid program through state or local chapters. *Write to the state headquarters of the lodge, inquire at the chapter in your home town.*

Perhaps in the very organization *you* belong to there may be a scholarship waiting. Individual need is an important yardstick in the national scholarships for members 17 and under in the Boys Clubs of America, and full four-year grants up to $450 per year for young "businessmen" in Junior Achievement stresses outstanding qualities. The extensive set-up of the 4-H Clubs for financial help toward your college education has a number of ramifications, with companies like the Union Pacific Railroad and Esso Standard Oil contributing awards to 4-H members. Have you explored all these bypaths?

Labor unions—at least at the state and local level —are awarding scholarships to children of members. Local 252 of the Hod Carriers, Building and Construction Laborers AFL, Tacoma, Wash., has been offering a $400 scholarship for a high schooler. The Massachusetts Federation of (*Continued on page* 78)



Certain family names good for $$$

West Point is free—and pays you too

Have you been golf caddy for 2 yrs.?

"WAG" CHARACTERISTICS

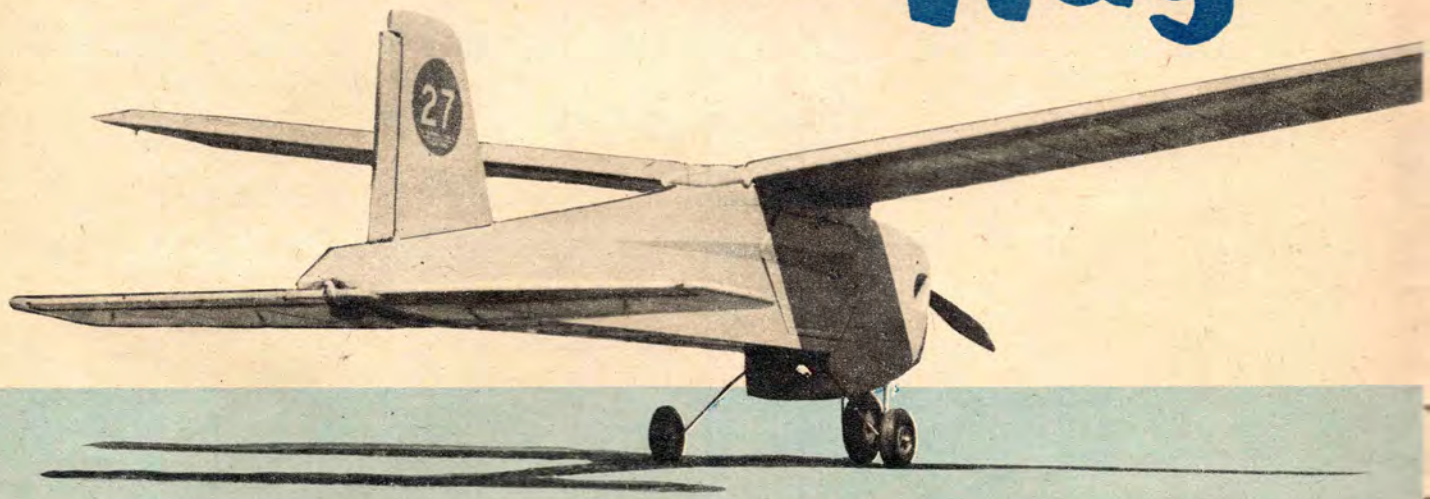
Wing: 60 x 11 in., 660 sq. in. area
Stab: 25%, approx. 165 sq. in.
Fin: 6%, approx. 40 sq. in.
Weight: 4 lbs., 9 ounces with radio
Wing Loading: Approx. 16 oz./ sq. ft.

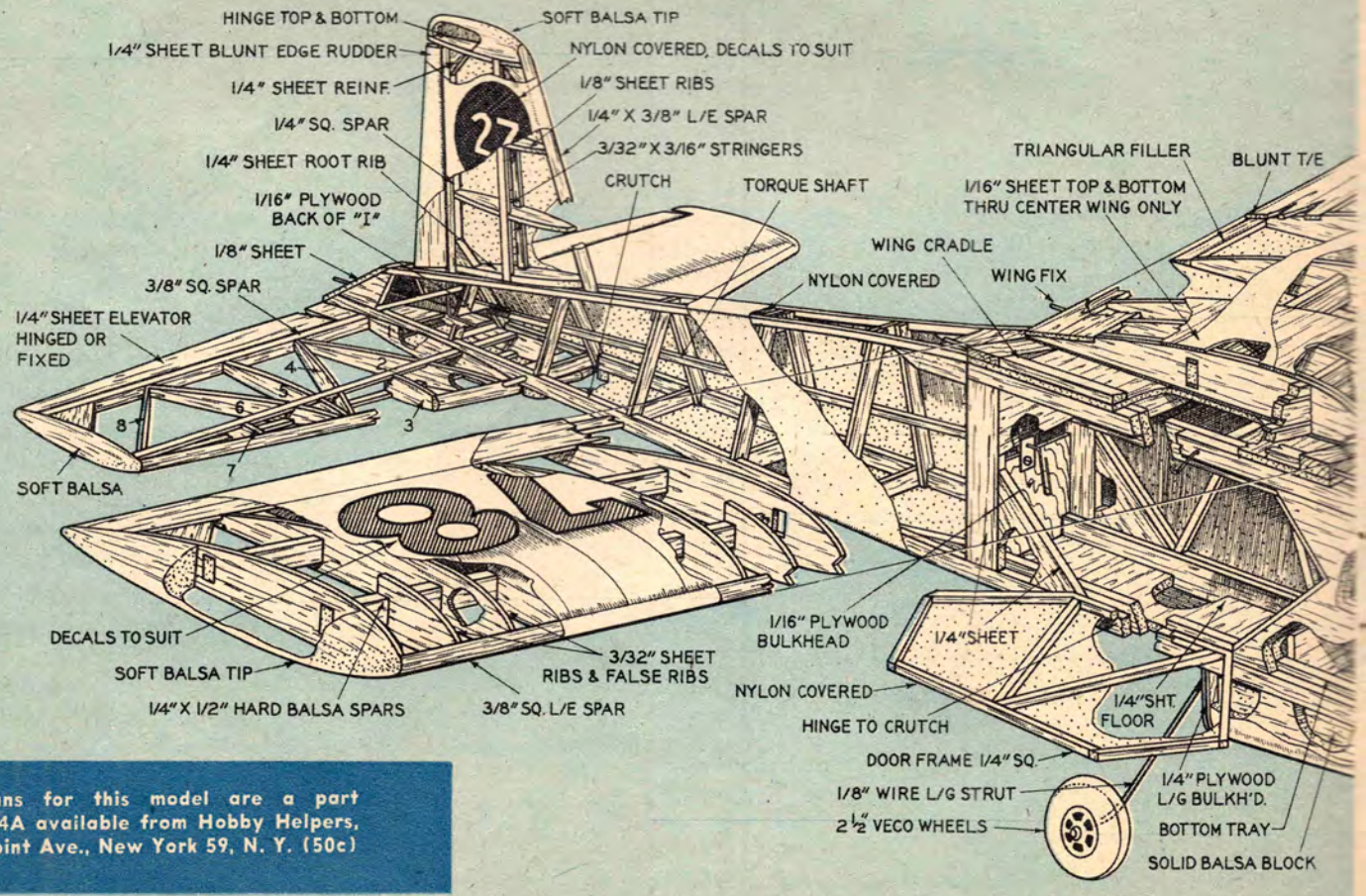
WEIGHT BREAK-DOWN

Wing, nylon, color dope. . . .13.0 oz.
Stab, nylon, color dope . . . 3.0 oz.
Body, with landing gear (less engine, radio, batt.) . . . 27.5 oz.
Engine, prop and tank. . . . . 8.5 oz.
Radio, batt., esc. wiring 21.0 oz.

Note: Grade of Nylon was 0.2 oz. sq. ft. Six coats clear butyrate, 2 coats of colored butyrate dope.

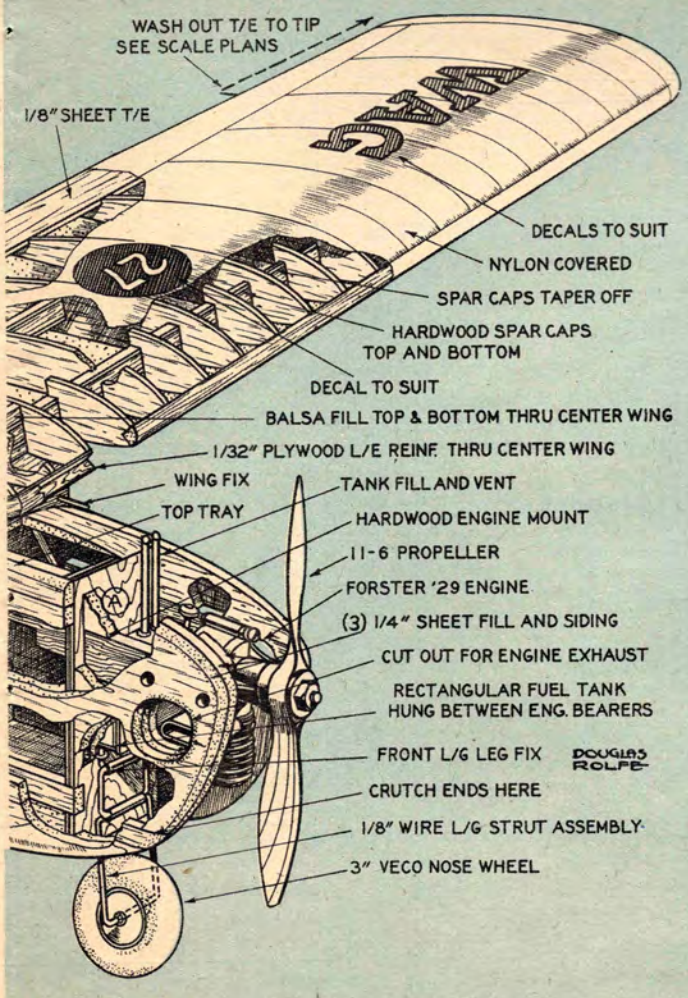
Walt Good's NEW "Wag"





Full-size plans for this model are a part of Group 454A available from Hobby Helpers, 770 Hunts Point Ave., New York 59, N. Y. (50c)

radio control designer and contestant releases details on his new craft



By DR. WALTER A. GOOD

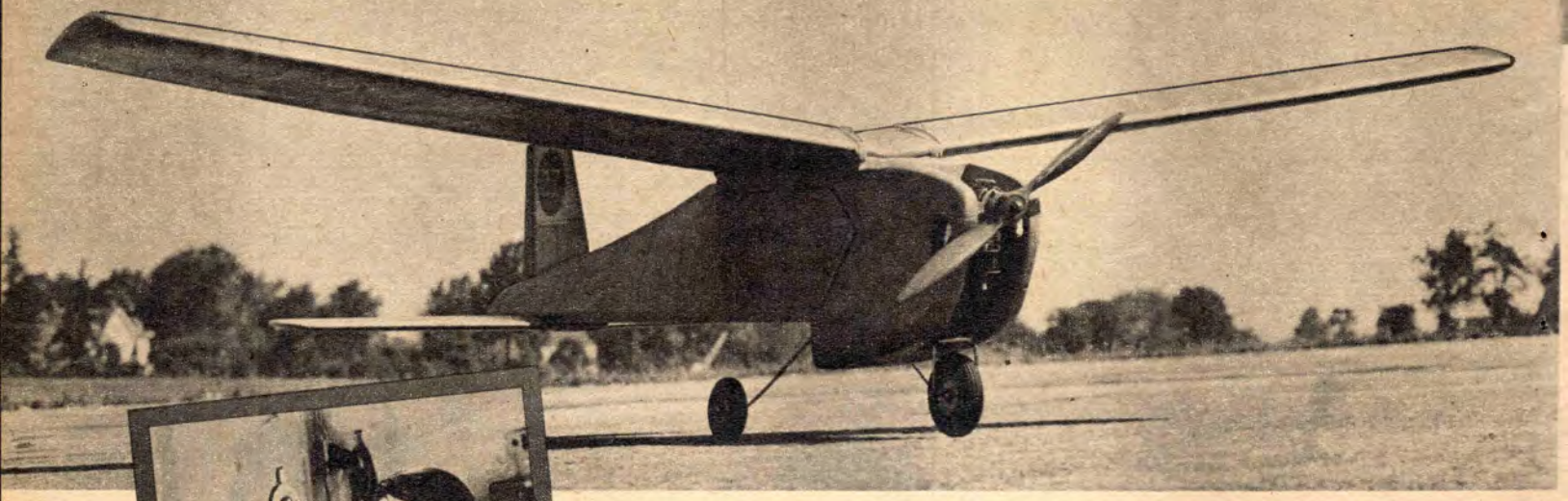
■ "Wag" was designed to fill the need of a sturdy stunt R/C plane and also serve as a sport plane for everyday flying. The ship has a 5-foot span, a wing area of a little over 4.5 sq. feet and runs a wing loading of a pound per square foot. A Clark Y airfoil was used for speedier flight and with washout in the wing tips it prevents tip stalling. The body was "ruggedized," particularly in the nose section, by using practically a double cabin structure as well as ¾" side walls and a solid balsa chin block.

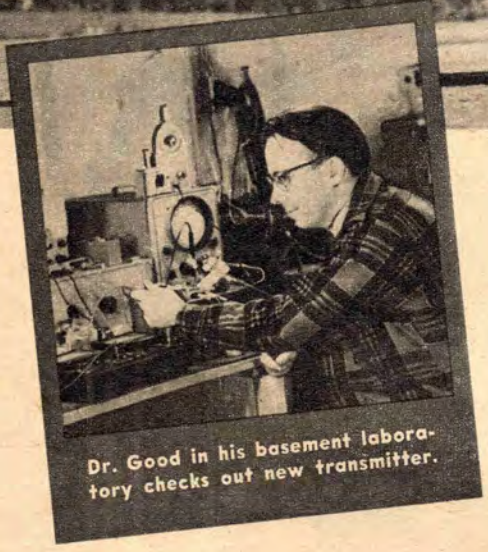
The side area of the body was proportioned with the fin to give both good spiral stability and to allow the propwash effect on the fin to straighten out the power flight. Even at that some right thrust is needed.

The step effect at the rear wheels was intentional in an attempt to introduce some drag to settle the glide and minimize speed buildup during turns, following Dick Schumacher's "Brute Force" concept. Don't try this ship for duration—it just doesn't float!

Provisions have been made for elevator and rudder control with completly enclosed linkages. Only rudder has been used thus far.

(Performance reports and construction data in the full size plans.)





Dr. Good in his basement laboratory checks out new transmitter.

Physicist... Champion modeler and outstanding radio engineer

■ When you think of R/C pioneering, you automatically think of Walt Good. And with good reason, for he has been involved in radio flying since 1935, when he and his brother, Bill, first started their experiments in this fascinating field.

Walt—or as we should perhaps call him formally, Dr. Walter A. Good—had been flying models for some time; his first creation was made of kite sticks covered with dress silk. It was not a huge success, but he soon got into model building in earnest and started attending meets. His first Nats success was an 11th place in Indoor Cabin, and despite many firsts garnered in later years, this indoor win stands out as one of the most exciting.

When Walt became interested in radio control he was strictly a model plane builder, but he had the great advantage of his brother's radio knowledge. Bill had been an active ham operator since 1932, and the pair were a "natural" in their joint R/C endeavors. They exhibited their first R/C plane at a science exhibit at Kalamazoo College in 1936. The next year they entered the first R/C event ever to be held at the Nationals—and came in fourth. From 1938 to 1940. they were top men in the field, winning the Nats event each year!

The plane they flew in these events was the "Big Guff," an enlarged version of the "Guff" that Walt had designed and flown very successfully in free flight gas contests. A real giant, when judged by the average R/C ship of today, the plane carried two-channel radio equipment for rudder and elevator control (though the latter was never used in their contest wins), and had enough cabin room to put in not only both hands, but most of your arms as well! While other R/C flyers were using multi-tube receivers, and later the gas tube developed especially for radio control (forerunner of our present-day RK61 and XFG-1 types), the Good Brothers perfected and stuck with a single-hard tube receiver. Their circuit was very much like that used in such sets as the "Simple-Single" today.

Although they were unable to get to the first postwar Nats at Wichita, the Goods continued their winning string in 1947 at Minneapolis. The old faithful "Guff" was again put through its paces; Walt admits there was not much of the original left by this time. This was the last appearance of the veteran ship at a Nationals contest, and it also marked the last Nats that Brother Bill was able to attend. "Guff" may go into the Smithsonian Institution—but Bill expects to be around for a long time yet.

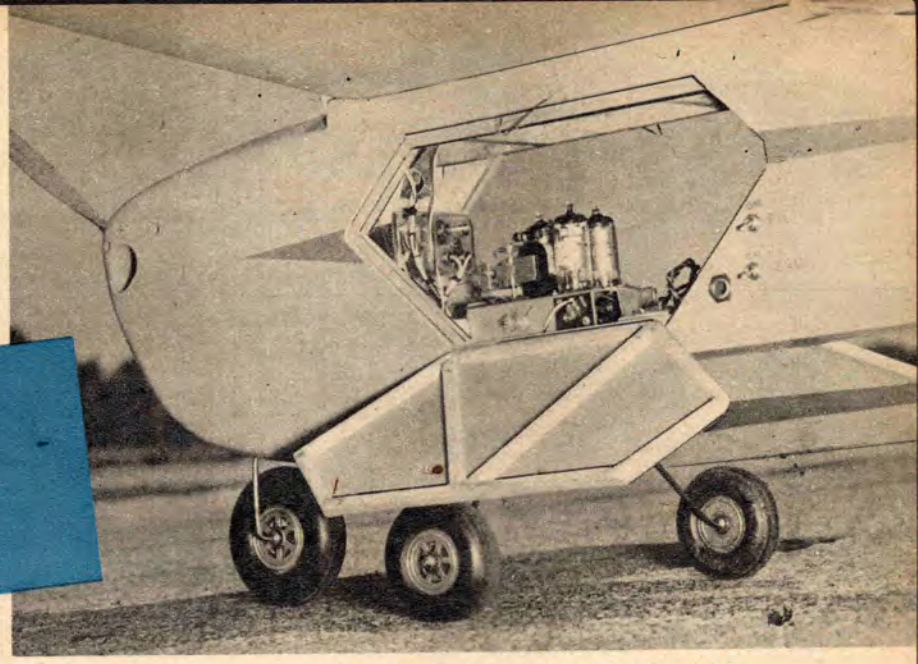
Dr. Good next showed up at the 1949 Nats in Olathe, and he had a brand-new design with him. This one—the "Rudderbug"—had been introduced early that same year and had created tremendous interest, so much so that when the Nats rolled around. 11 out of 32 R/C entrants were flying the new design! Walt continues to compete in local contests, with uniform success. At the 1952 National Capitol model meet, he made an official F.A.I. flight for R/C Duration, and set an official F.A.I. world record of 40 minutes, 27 seconds in the air. The motor run was 26½ minutes, and the glow-plugged Forster .29 was fed with about ½ lb. of fuel, from two large auxiliary tanks strapped on.

After a Ph.D. degree at the Univ. of Iowa Walter immediately began intricate research at Carnegie Institute in Washington. Later he joined the staff of the Johns Hopkins Applied Physics Laboratories. Dr. Good is one of the prime examples of an active model builder—and radio controller—who has engaged in valuable scientific work in later life; he was instrumental in the development of the proximity fuse during the war, and also had a hand in the design of complex Navy electronic fire control apparatus.

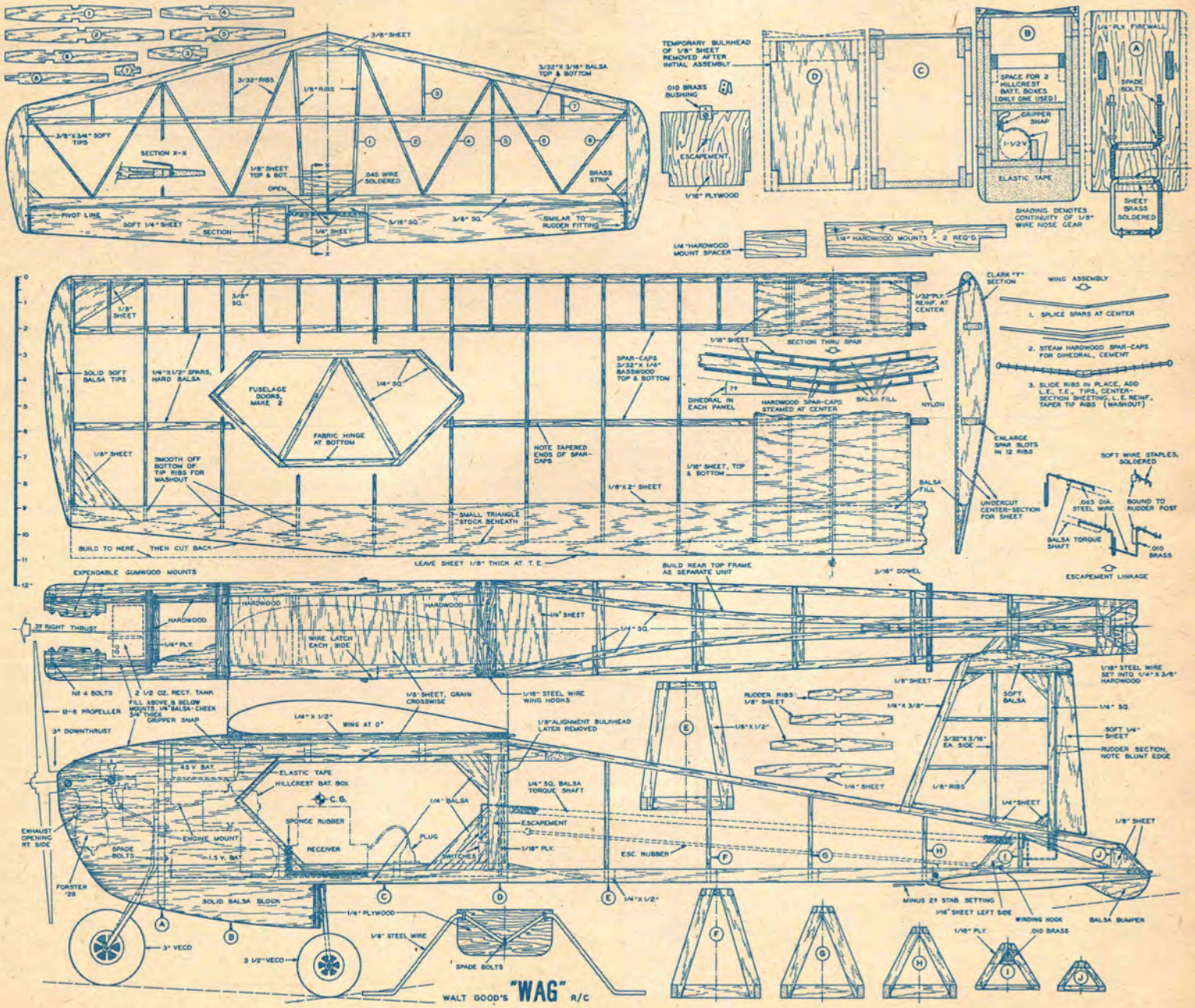
Active for a long time in A.M.A. affairs, Walt looks back on a couple of years as Chairman of the Contest Board as a really hectic period. He led the successful campaign to induce the F.C.C. to set up a special spot for R/C flying, the 27.255 crystal-controlled examination-free frequency. Probably even the Doc himself has lost track of the number of letters written, conferences held, R/C demonstrations given to F.C.C. members—all of which resulted in the 27.255 spot.

COMING ATTRACTIONS!!!

In the next issue: Dr. Good's new 3-tube tone receiver; in June, the transmitter.



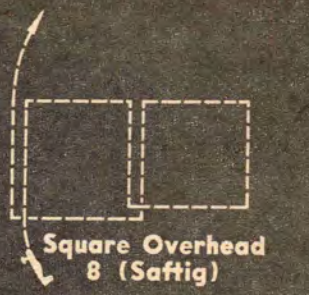
Installed in the "Wag" is the new Good 3-tube 1-channel tone receiver which will be featured, along with the transmitter, in subsequent issues of "ATH."

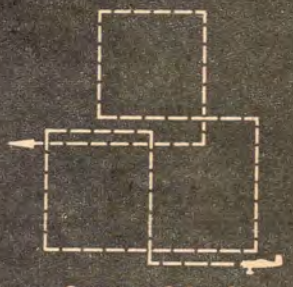


New Stunt Patterns
FOR MODELPLANE FLYERS

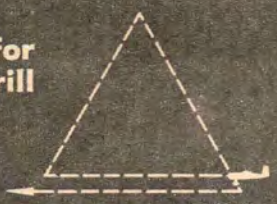
■ When the New York *Mirror* Model Flying Fair (this year on May 15 at Floyd Bennett NAS, Brooklyn) found control line flyers breezing through the A.M.A. stunt pattern, they decided to take action. *Mirror* men wrote to the nation's outstanding stunt model designers, contest winners and meet managers asking for suggestions on new maneuvers.

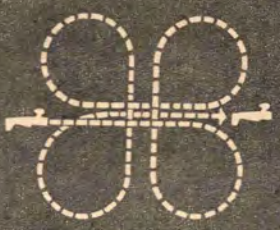
Here are some of the "standard" MMFF stunt patterns, plus others that were considered a wee bit too complicated for competition flying just yet. Among those who suggested new stunts were Hi Johnson, Don Still, Lloyd Curtis, Jim Saftig and George Aldrich. Remember—many of the vertical maneuvers can be done as overheads and vice versa.

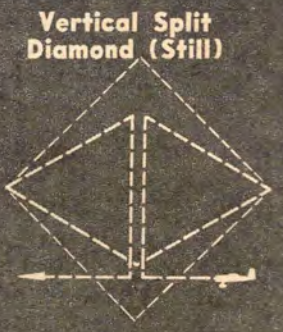


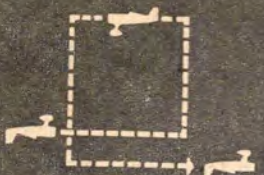


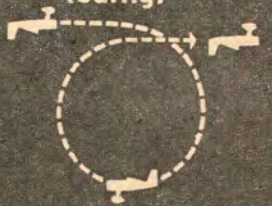
Try These for a Real Thrill

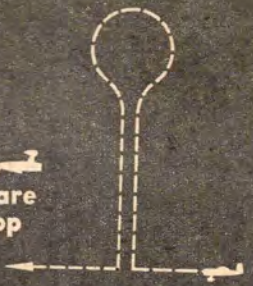


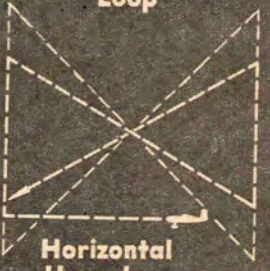


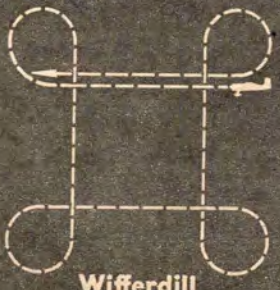


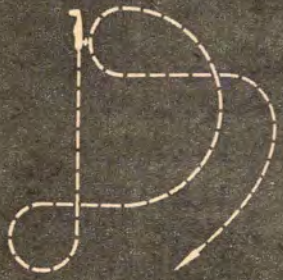


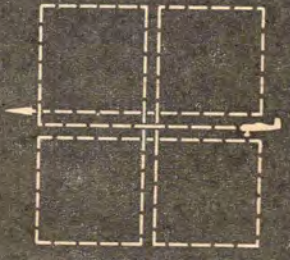


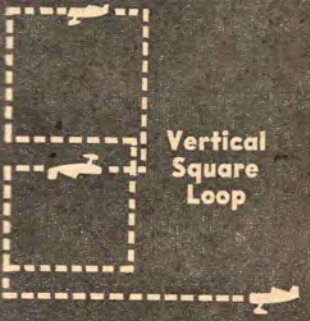


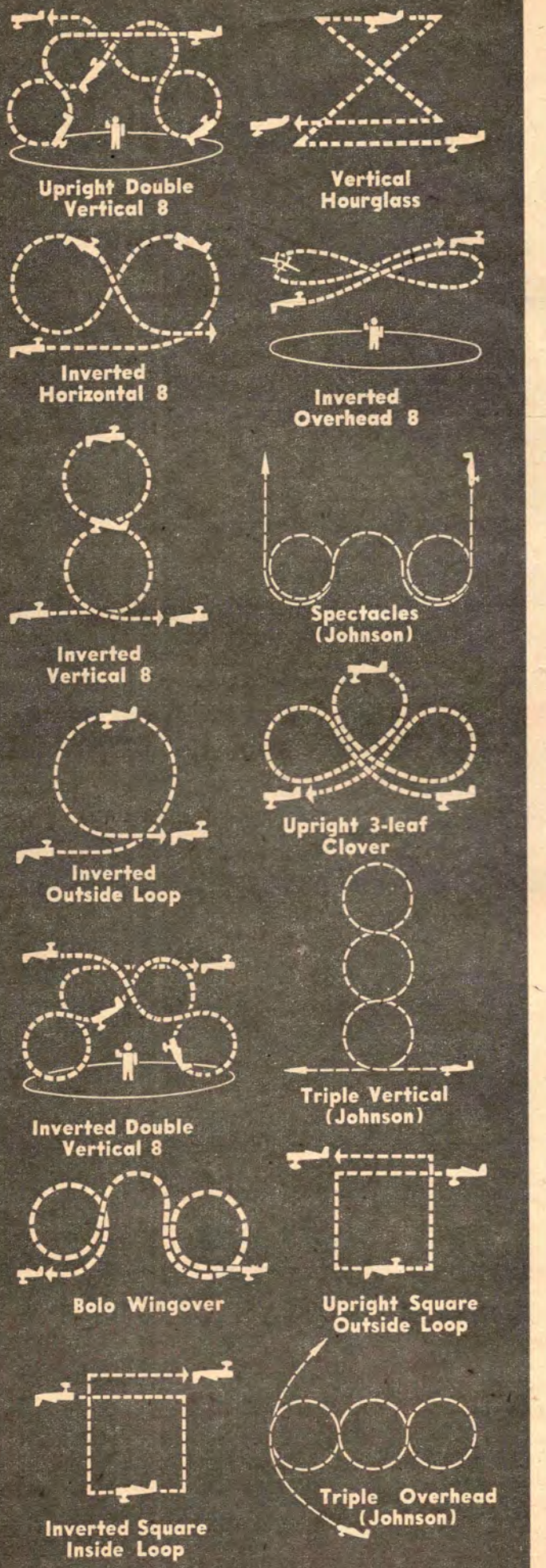












By BOB ELLIOTT

National Open Stunt Champion

Stunt Pilot Techniques

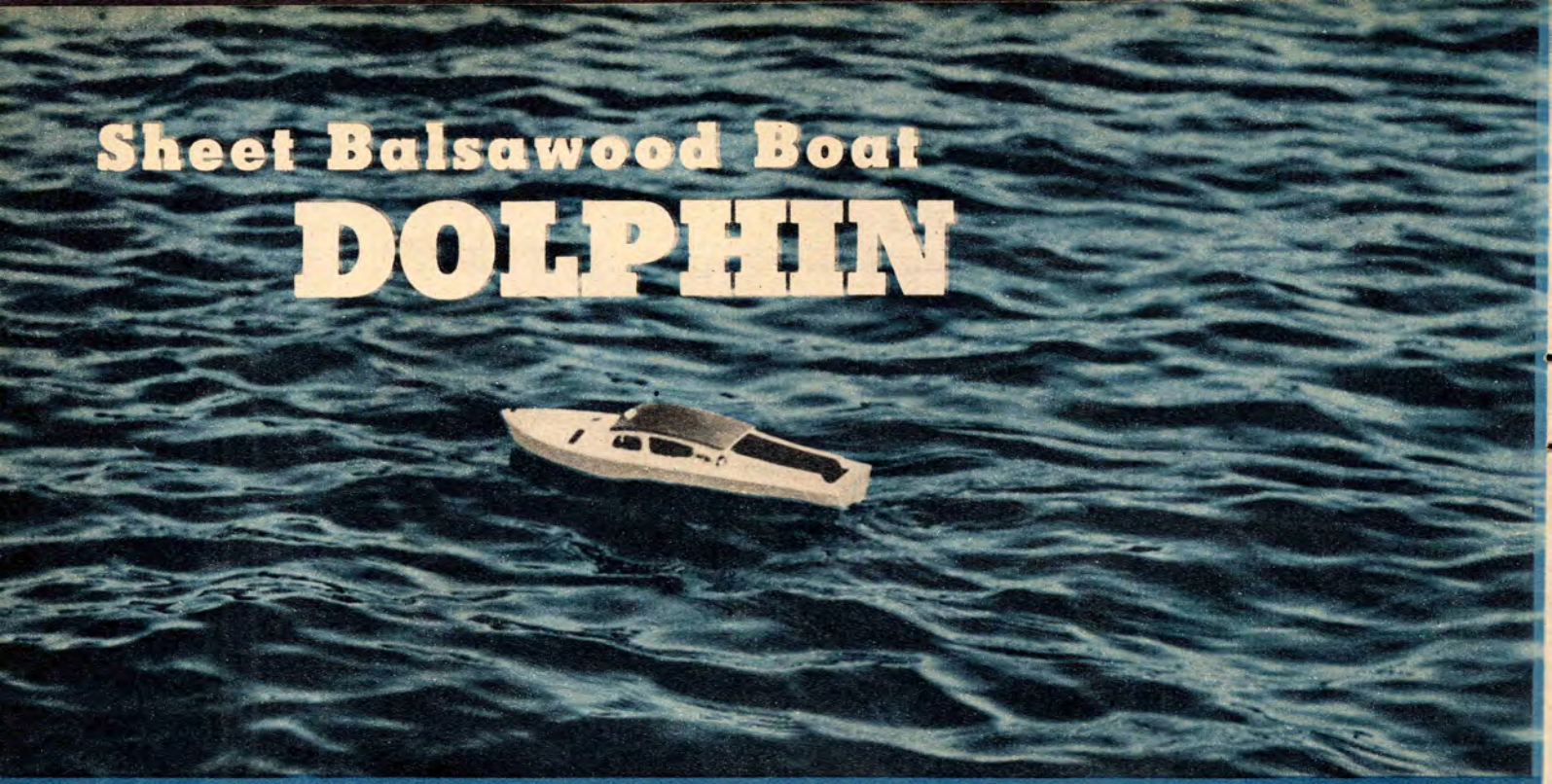
■ The old saying "practice makes perfect" is basically the only way a flyer can become a consistent winner. I see the pattern as a piece of chain, each link representing a different set of maneuvers, with each set smoothly joining the others. If I have a rusty link in the chain, I don't like to break the chain just to practice the maneuvers that need attention. Consequently, I practice the full pattern each and every time I fly my ship unless I have a bad needle setting. Using this method, you can not only improve your poor maneuvers, but your good ones as well. This may be considered a slow methed of improving those poor maneuvers, but I belive you will be satisfied with the overall results. As for size of maneuvers, large and small, it makes very little difference, but, in order to make your flight more uniform, keep all of your maneuvers the same size and as smooth as possible. For a much neater pattern, connect each set of maneuvers with smooth level flight.

Another important item is your airplane. In the past few years, the stunt event has changed with the addition of semi-scale stunt ships. Remembering the importance of appearance, select an airplane with proven, dependable stunt qualities capable of flying a winning pattern, if built properly. *Properly build your airplane.* If a modeler spends a good deal of time, effort, and money on an airplane and its performance is not up to par, maybe this is due to a few small but significant things he overlooked. Always keep your control system working smoothly. Be sure to make all pushrod connections snug and free from play. At all times use good hinge material, if cloth hinges are needed. Remember that all flaps and (or) elevators must be hinged as tightly and neatly as possible. In the construction of your wing, check and remove all warps. Before construction you can straighten each spar by careful bending.

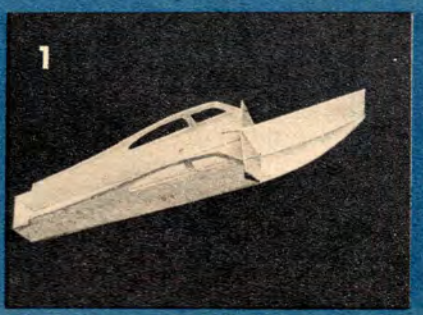
If your completed plane has any tendency to fly with the inboard or the outboard wing low, adjust it to fly perfectly level by adding trim tabs, or adjust wing flaps. During construction be sure that your wing and stab are parallel to the thrust line. Positive or negative incidence can bring on headaches. Another cause of poor flying characteristics comes from too much engine and rudder offset. Some modelers have a false idea that very much of one or the other, or both, is needed to keep the ship tight on the lines. Actually, too much engine or rudder offset can cause the airplane to rock very badly, naturally hampering the smoothness of your flying. Above all put a good finish on your ship. Don't spare the elbow grease!

Select a proven engine that is recommended for your airplane; always keep it clean and well oiled when not in use. Be sure to use the best fuel for your particular engine. When an engine is completely cowled, sometimes it is advisable to use a slightly cooler fuel.

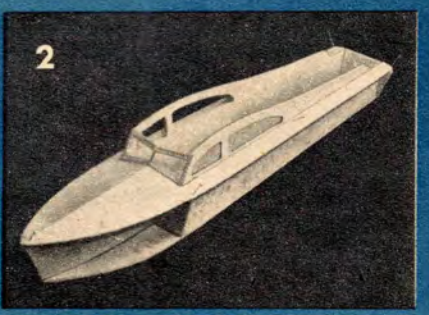
Sheet Balsawood Boat
DOLPHIN



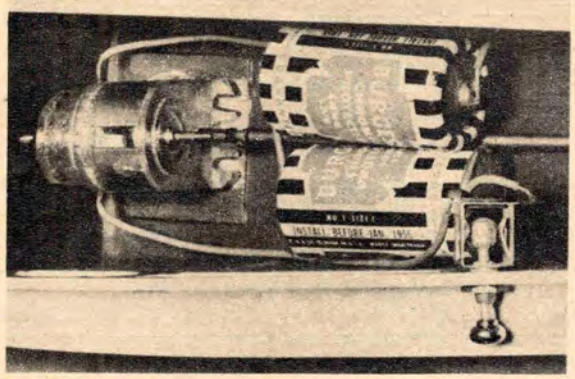
Introducing an entirely new, easy construction technique . . .



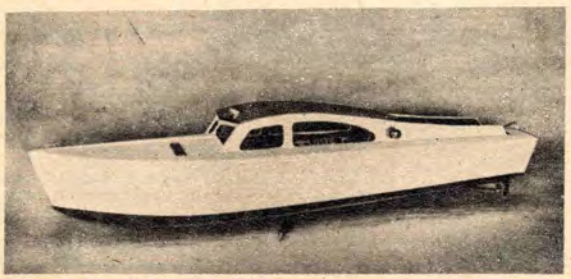
From sheet balsawood . . . .



you quickly develop . . . . .



Small electric motor is in cabin. Switch by K&O. Just show this to your hobby dealer; he has all necessary ingredients in stock. The balsa is 1/16" thick sheet.



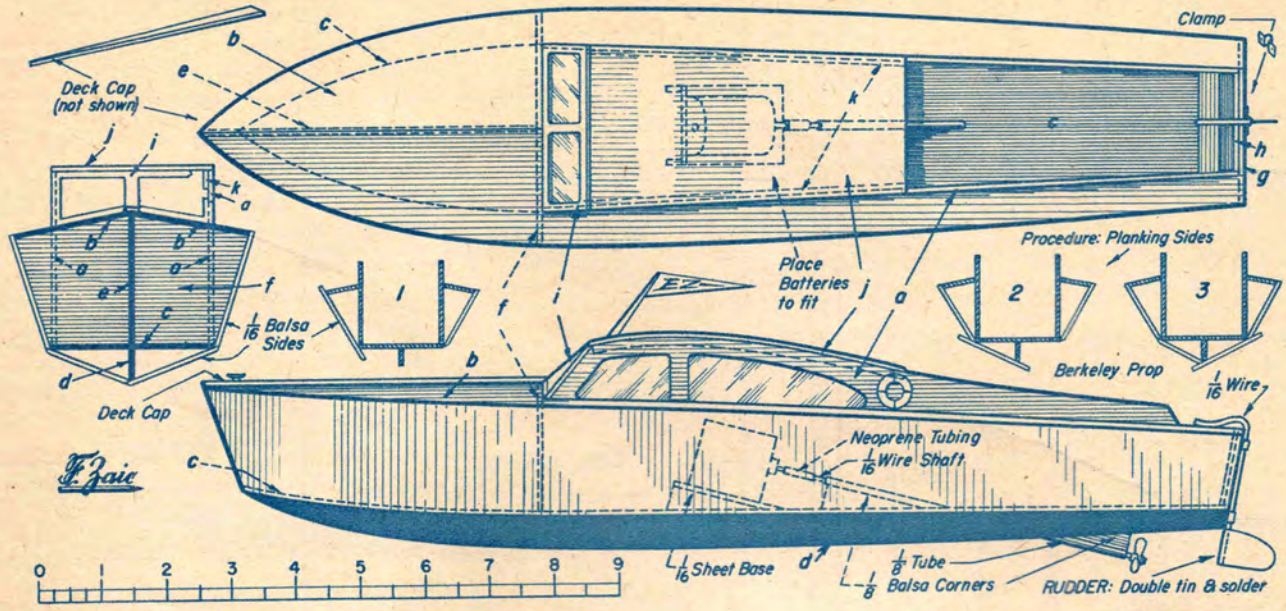
Finished Dolphin has airtight compartments, hard to sink.

■ This simple all-sheet balsawood model represents a new approach to miniature boat building. The technique was developed by Frank Ehling, well-known designer of model vehicles, planes and water craft. Overall length of the *Dolphin* is 16.5 inches, beam is 3.75 inches. As the in-action photo illustrates, the craft, powered by a little plastic-encased 3-volt electric motor, is an excellent rough-weather sailor.

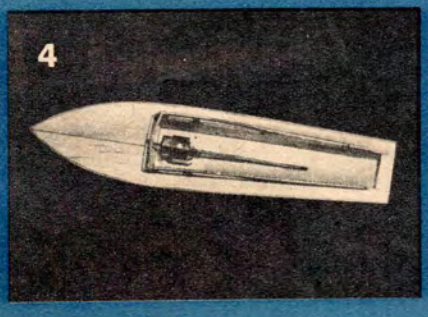
You cut a few small pieces of wood, then assemble the boat as fast as the glue (model cement) will dry. Speedy construction is possible because of faint cross marks cut into the false bottom at its forward end. And when the hull sides are glued in place (sequence photo #3) these also are scored vertically, permitting the side to form the bow curve with no difficulty.

Arrows on the patterns (right) indicate direction of grain. Follow this for proper results. Your *Dolphin* may be water-proofed with any paint or dope you wish; exterior colors on the original were red on the hull bottom and cabin top, white elsewhere. Cabin interior is black. Pack shaft with non-water soluble grease. Your hobby dealer will have accessories such as lights, life preservers, hatch tops and the like.

Try some clear, interesting action photos of your boat (the magazine pays $10 for those used!)

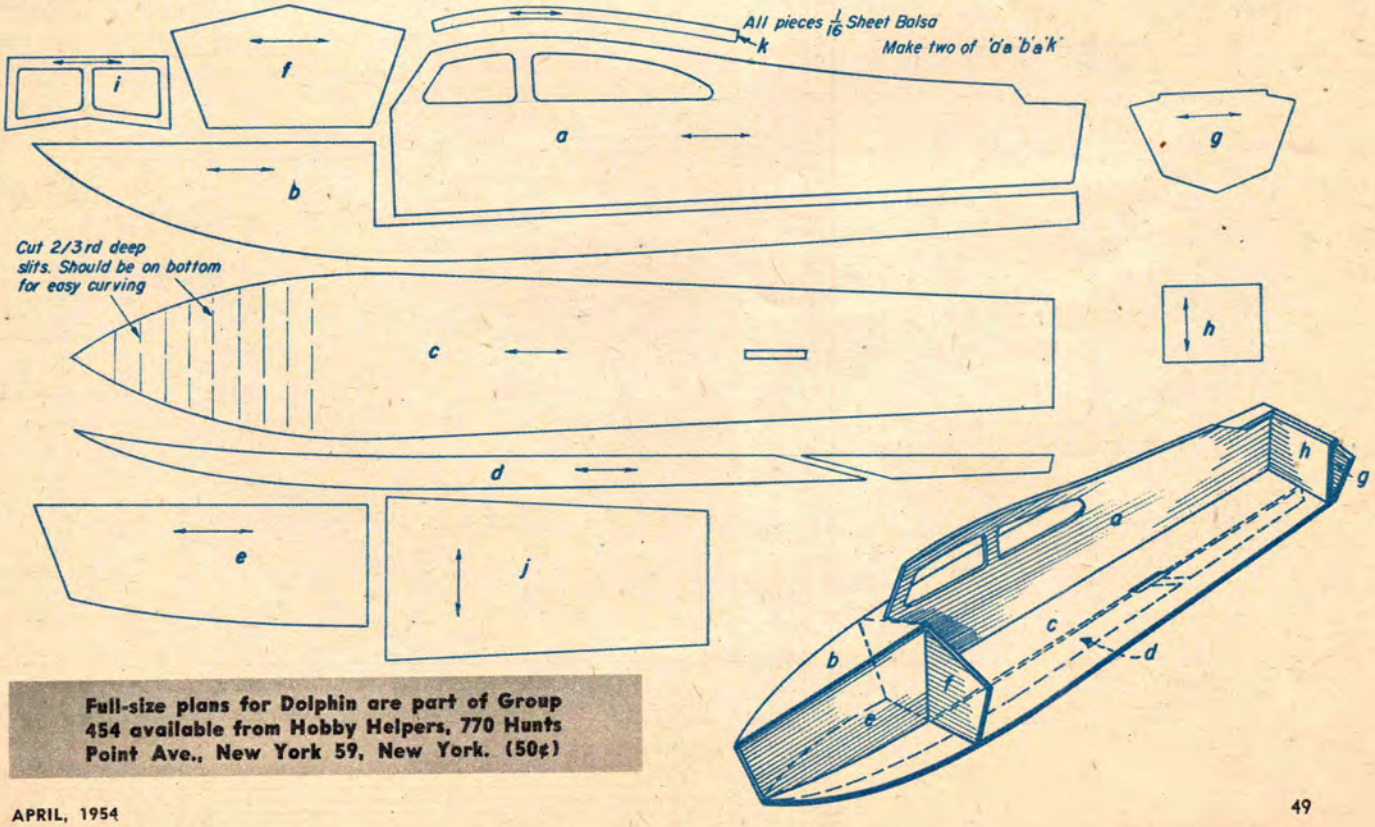


this very realistic . . . . .

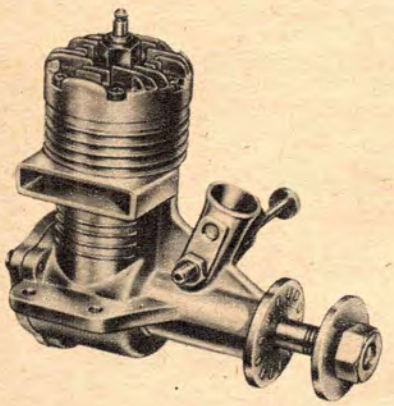


eye-appealing . . . . .

cabin-type cruiser



Full-size plans for Dolphin are part of Group 454 available from Hobby Helpers, 770 Hunts Point Ave., New York 59, New York. (50¢)



Fox 19

"Duke" Fox redesigns his smallest powerplant into a very efficient Class A.

■ The redesigned Fox .19 can now take its rightful place as a member of a fine family of engines. It is good-looking, well-made and dependable in operation. Outwardly the appearance is not unlike the well-publicized Fox .29 and .35. Bore is .650 inch, stroke .700 inch and weight 4¾ ounces. The extended venturi has provision for the addition of a second needle valve for two-speed operation.

NEW FEATURES

The throat diameter has been reduced in the casting, thus eliminating the need for the plastic insert found necessary in the old version. The cylinder head, main cylinder and crankcase and the rear cover plate are high pressure aluminum castings. The by-pass area and exhaust stack have been enlarged; the intake and exhaust port areas remain unchanged.

The new .19 now incorporates an offset cylinder which places the piston slightly to the right (exhaust side) of the crankshaft center line. This results in a straighter line power stroke and takes part of the strain off the aluminum connecting rod. The hardened and ground crankshaft is quite rugged and heavily counterbalanced. The cast iron piston with its straight baffle is slightly relieved below the wristpin, thereby eliminating unnecessary friction or oil drag.

The steel wristpin is fitted with a brass pad at each end. The steel cylinder liner is ground and honed to a good finish and is held in place by the aluminum cylinder head. Two copper washers of different thicknesses separate the head from the cylinder casting. These appear to be used as spacer washers.

The brass needle valve body is easily removed and reversed if desired. The blunt tipped steel needle valve is securely held as adjusted by a two pronged brass spring tensioner.

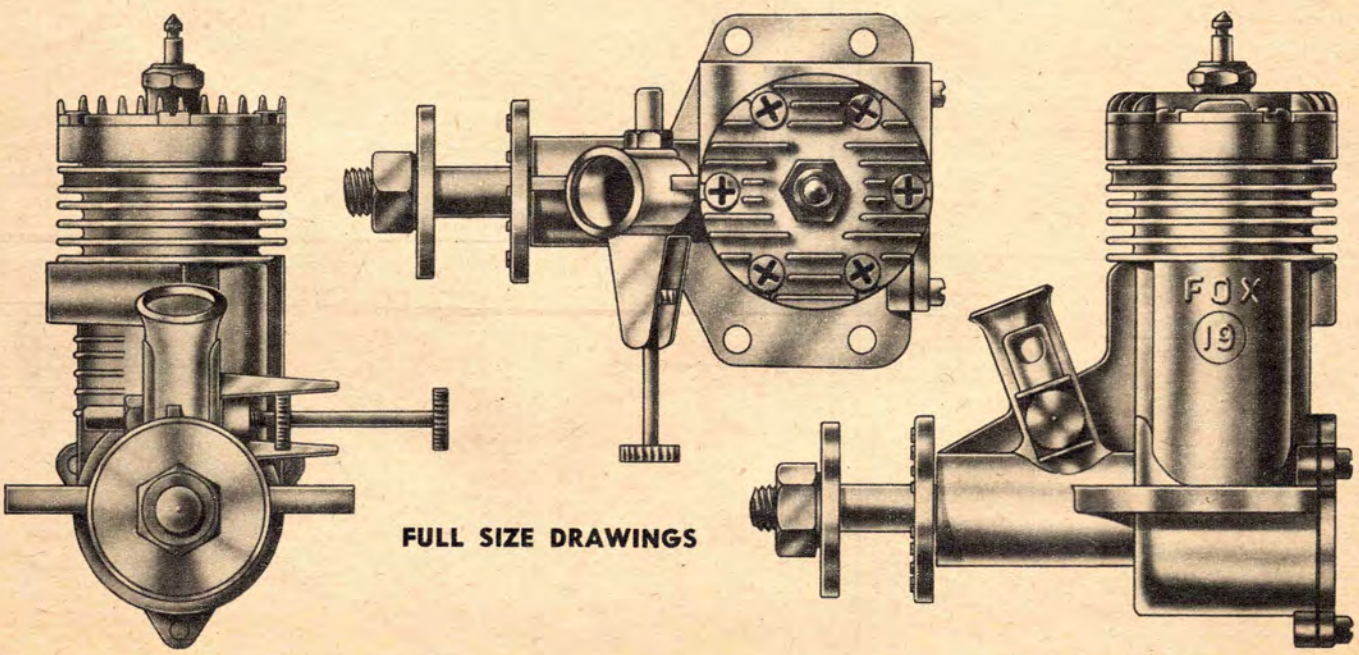
The whole line of Fox engines has proven outstanding in stunt models. They are also excellent scale and free flight performers. The new .19 should fit in nicely.

TEST RUN RESULTS

The engine tested was fitted very closely and required considerable break-in time. However, it was quite easy to start. Restarting while hot was not entirely easy at first but toward the end of the test, restarting while hot was no longer a problem.

It is capable of running with an exceptionally rich mixture which makes it ideally suited for 2-speed operation. "Duke" Fox states that his .19 performs most efficiently at 11,000 to 13,000 rpm. Slightly over 13,000 rpm was attained with a 9/4 propeller.

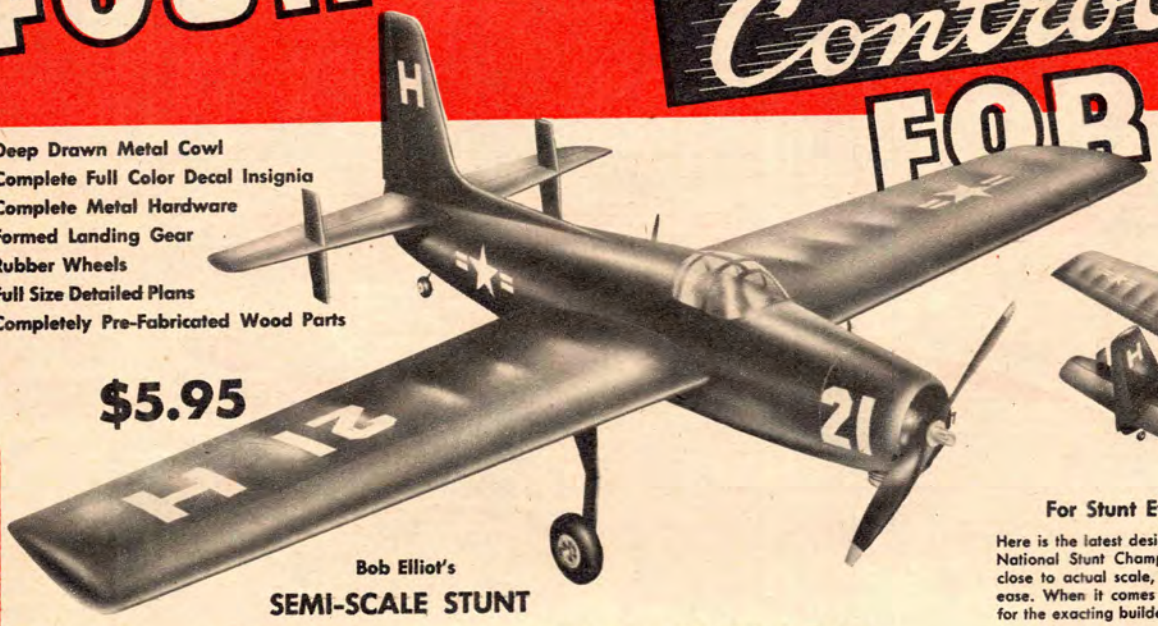
Included with the engine is a very comprehensive instruction manual which covers installation, operation notes: propellers, glow plugs, fuel, dis-assembly, cleaning the motor, repair policy and a complete parts list.



FULL SIZE DRAWINGS

FOUR NEW Controliners* FOR '54

- Deep Drawn Metal Cowl
- Complete Full Color Decal Insignia
- Complete Metal Hardware
- Formed Landing Gear
- Rubber Wheels
- Full Size Detailed Plans
- Completely Pre-Fabricated Wood Parts

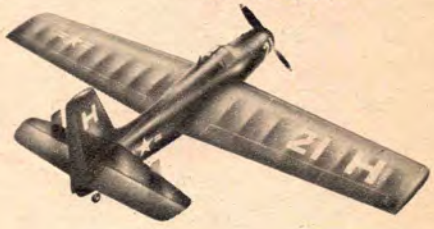


$5.95

Bob Elliot's

SEMI-SCALE STUNT

GRUMMAN "GUARDIAN"



For .19 to .36 Engines
53" Wingspan

For Stunt Events and Navy Carrier

Here is the latest design from the board of Bob Elliot, 1953 National Stunt Champ. A truly beautiful model, it is very close to actual scale, but can do the full stunt pattern with ease. When it comes to appearance, it will win top points for the exacting builder.

This great new model makes an ideal Carrier event airplane, as it handles so easily! No trouble catching the arresting gear with this model.

---

by Berkeley

Quick and Easy-to-Build!

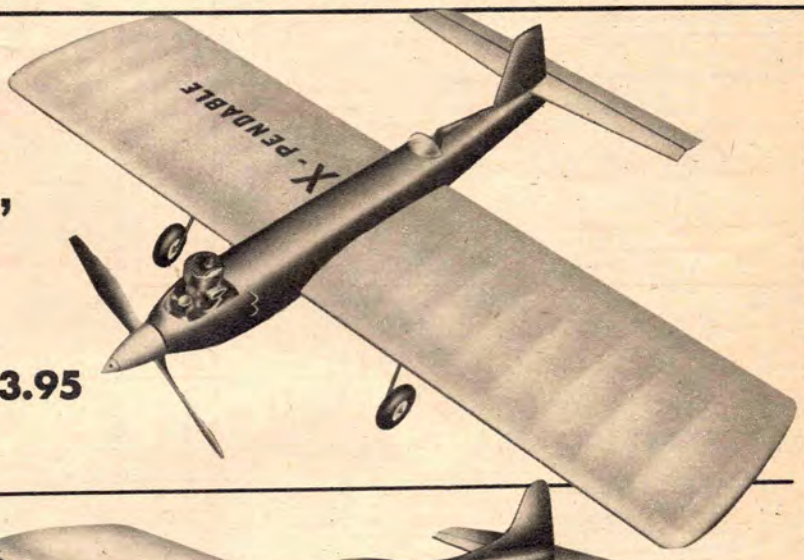
ZILCH "X-PENDABLE"

The Newest in Combat Stunt Planes—

For .19 to .35 Engines — 38" Wingspan

The Controline Combat Ship that outperforms them all. Designed and tested with typical Saftig precision. You can build it in the same time it takes to build a profile job, but you will have a lighter, stronger, and faster model!

Kit includes all Pre-fabricated Wood Parts; Complete Controline Hardware; Metal Landing Gear; Rubber Wheels; and FULL SIZED PLANS, detailed as only Berkeley details them.



$3.95

$1.95

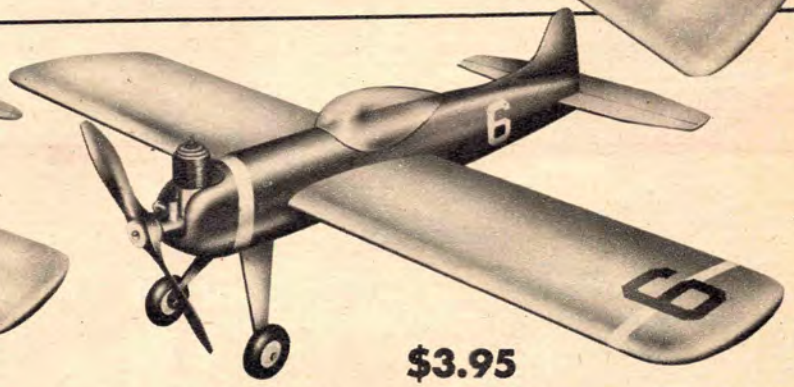
Controline Trainer — Super Pre-Fabricated!

"JUNIOR PUDDLE-JUMPER"

For .049 to .075 Engines — 19" Wingspan

The "Junior Puddlejumper" employs proven Jim Walker "U-Control." The plans show all the details for installing the controls. There are six progressive steps in elevator sensitivity as you progress in flying ability. In addition installations of all the most popular engines are shown on the plans.

Kit includes all Pre-fabricated Wood Parts; Complete Controline Hardware; Metal Landing Gear; Rubber Wheels; and FULL SIZED PLANS, detailed as only Berkeley details them.



$3.95

Controline Trainer — Super Pre-Fabricated!

SUPER PUDDLE-JUMPER "28"

For .09 to .23 Engines — 28" Wingspan

The "Super Puddlejumper" is a primary controline trainer model that is easy-to-build yet is light enough to perform all the basic stunt pattern. Its thick, hollow "Twin-Foil" wing with built-in box spar gives high maneuverability at medium-low speed for the beginner. At the same time it is extra rugged to resist the inevitable crashes while training.

The "Super Puddlejumper" is the ideal size for stunt training. The FULL SIZE PLANS show the installation of most of the more popular engines as well as complete controline system installation details.

---

buy BERKELEY at your local dealer!

If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. AT., West Hempstead, N. Y. Please include 25¢ packing & postage.

Berkeley's INCOMPARABLE SUPERIORITY!

Embodying the finest in design, with completeness found only in a Berkeley Kit, these models will satisfy the exacting modeller.

Pre-Fabricated *Controliners*

HERE IS WHAT YOU FIND WHEN YOU OPEN A BERKELEY KIT—

The hardware and metal parts such as deep-drawn cowls, wheel pants, spinners, stampings and fittings are included as required by each design. Controline Kits include all the necessary bell-cranks, elevator horns, pushrods, hinges, etc. In addition you will find such small items as wheels, bolts, nuts, washers, reinforcing tape, die-cut or formed celluloid, and other hard-to-get parts.

Your Berkeley Plan will be Full Size, with three or four times the minimum detail required to actually build the model. The full size layouts and extra details clarify construction, speed assembly, and aid in repair work and modifications.

The Balsa and Mahogany in each kit is selected from the finest grades available, pre-shaped or precision die-cut as required.

Yes you get a lot when you buy a Berkeley Kit. You get more in material value, more in design engineering, and more in potential performance.

$6.95

North American
"AJ-1 SAVAGE"

For two .045 to .099 Engines plus Jetex 100, 200 or Jetmaster 150 unit, for exact scale power. 27" Wingspan — ⅜" Scale from factory plans.

"PITT'S SPECIAL"

For .19 to .33 Engines — 25½" Wingspan **$4.95**

This colorful stunting biplane stands apart on any field. Decals include red flare design. Metal cowl, wheel pants, celluloid, etc.

$5.95

CESSNA "195"

For .19 to .49 Engines — 36" Wingspan

This beautiful lightplane features Step-Keel construction. Formers are positioned by a removable jig. Metal cowl, die-cut parts.

$5.95

North American "T-28"

For .23 to .36 Engines — 30" Wingspan

This new Air Force Trainer aligns itself on the Step-Keel, included in kit. Tri-cycle landing gear, metal cowl, bubble canopy, U-Control.

$5.95

"MINNOW" Cosmic Wind

For .09 to .36 Engines — 28" Wingspan

Probably the most famous Goodyear Racer of all. Step-Keel Fuselage, wheel pants, metal spinner, cowl, complete decals, canopy, U-Control.

North American
"AT-6 TEXAN"

(U.S. Navy Designation SNJ-5)
For .19 to .33 Engines — 31" Wingspan

$4.95

Authentic and complete down to both Army and Navy decals, the AT-6 is one of the most popular kits of all time. Performance is excellent.

buy BERKELEY at your local dealer!

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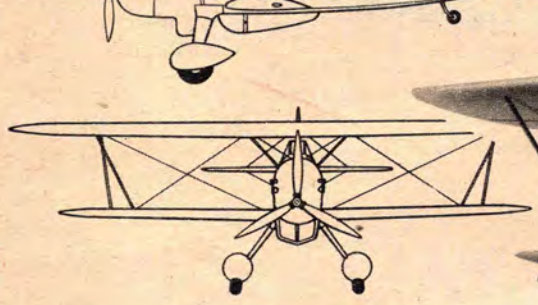
MUCH MORE-

DETAIL - VALUE - PERFORMANCE



$4.95

Berkeley's

Controliner®

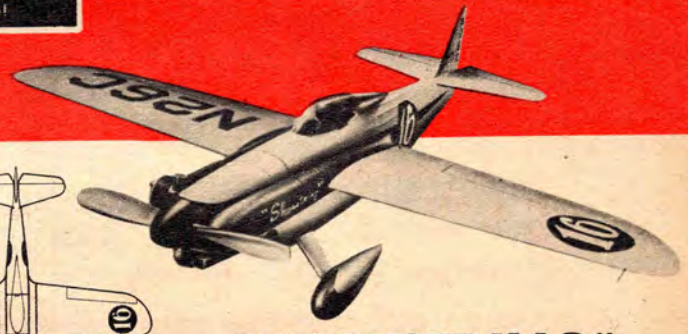
CURTISS HAWK "P-6E"

For .09 to .15 Engines — 3/4" Scale — 23 3/4" Wingspan

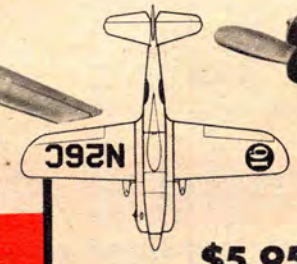
- Deep Drawn Metal Cowl!
- Stamped Metal Wing Struts!
- Formed Metal Wheel Pants!
- Metal Rudder, Elevator Hinges!
- Formed Wire Landing Gear!
- Jim Walker "U-Control" System!
- "Autotrol" Rudder System!
- Rubber Wheels, Hardware!
- Authentic Decals in 4 colors!
- Full Size Detailed Plans!
- Shaped Fuselage Sections!
- Side Profile Assembly Keel!
- Shaped and Notched Wing Edges!
- Die-Cut Balsa and Plywood!
- Celluloid, Covering Tissue!

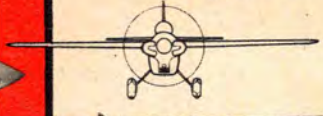
Designed by Don McGovern and Bill Effinger

The Curtiss Hawk "P-6E" is one of the great historical models of the Air Force. It was our best pursuit ship of the early 1930's. Berkeley's model is authentic, scaled without deviation from rare service manuals supplied to us by the Air Force Technical Museum. The complete decals for the famous "17th Pursuit Squadron" from Selfridge Field, Mich. make it a really beautiful model to own and fly.



$4.95





$5.95

"SHOESTRING"

For .14 to .36 Engines — 28" Wingspan

This Continental Trophy winner makes a perfect 1 1/2" scale controline model. The kit includes genuine Jim Walker "U-Control"; metal hardware; formed metal wheel pants; metal spinner; formed sheet metal landing gear; metal bushed rubber wheels; die-cut balsa; plastic bubble canopy; fuelproof decals; hardwood mounts; die-cut plywood; covering material; full size detailed plans.

Beech Aircraft's

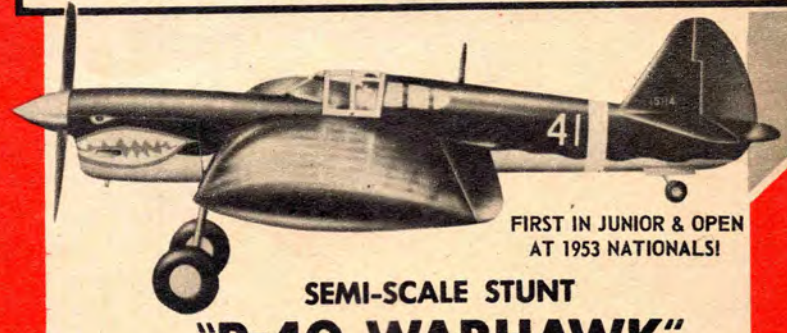
T-34A "MENTOR"

For .14 to .29 Engines — 33" Wingspan 1" Scale

Beech Aircrafts T-34A Primary Trainer has been ordered into production for the USAF. Powered by a 225 hp. Continental, the two-place "Mentor" has a ceiling of 20,000 feet, speed of 180, and a range of 785 miles.

- Jim Walker "U-Control"
- Optional "Autotrol Rudder"
- 1/4" Plywood Motor Mount
- Formed Tricycle Gear
- Authentic Full-Color Decals
- Rubber Wheels, Hardware
- Embossed Celluloid Canopy
- Carved Nose Cowl Blocks
- Elevator and Rudder Hinges
- Die-Cut Balsa and Plywood
- Full Size Detailed Plans
- Shaped, Notched Wing Edges

Proportions of the T-34A are perfect for Controline flying. Easily assembled by the "Step-Keel" method, the fuselage is balsa planked. The wing is reinforced to absorb landing impact. Jim Walker "U-Control" is used together with the optional "Autotrol" Rudder system. Decals are complete and include even the smallest details.



FIRST IN JUNIOR & OPEN AT 1953 NATIONALS!

SEMI-SCALE STUNT

"P-40 WARHAWK"

For .19 to .36 Engines — 45" Wingspan

This beautiful semi-scale stunt controline won first in Open and first in Senior at the Tangerine Internationals. Die-cut balsa; silk-screened celluloid canopy; complete metal hardware including Jim Walker "U-Control"; metal cowl; fuelproof Flying Tiger decals; stunt flaps.

$4.95

buy BERKELEY at your local dealer!

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Berkeley's

Pre-fabricated

FLYING SCALE FIGHTER Controliners*

Embodying the finest in design, with completeness found only in a Berkeley Kit, these models will satisfy the exacting modeller.

North American "P-51 MUSTANG"

37" Wingspan — For .19 to .36 Engines

$5.95

For the detail conscious model builder this kit is a must. Landing gear and tailwheel is retractable and extensible in flight. Flaps, elevator and rudder control are operated through bellcrank.

$4.95

Republic "P-47 THUNDERBOLT"

40¾" Wingspan — For .29 to .65 Engines

History was written with this famous fighter of World War II. Fully automatic wing flaps and engine throttle control make it possible to duplicate the full scale counterpart in flight.

$4.95

Known as one of the fastest climbing fighters of all time, the Bearcat is an excellent subject for Carrier Deck Flying. "Autotrol" rudder operation eliminates slackening control lines.

Grumann F-8-F BEARCAT

35½" Wingspan — .29 to .65 Engines

"CHAMPIONSHIP" ½A FLYING SCALE

These full One-Inch Scale models have been designed for free-flight flying, and have proven themselves on the contest field. .035 to .049 engines, CO_2 or rubber power is suitable. For controline conversion, .049 to .099 engines are advised. Die-cut balsa parts.

"FAIRCHILD" FIRST IN OPEN AT '53 NAT'S.

$2.95

Free-Flight Gas — Controline — Rubber

Cessna L-19 "BIRD DOG"

.035 to .049 Engines for Free-Flight

.049 to .099 Engines for Controline

In active duty in Korea, this new liaison plane is perfect in proportions for model work. Plans show it as a free-flight "½A" gas, with details for rubber and controline conversion. Fuelproof decals, die-cut balsa, plywood and celluloid; shaped and notched wing edges; formed gear, etc.

$1.95

STINSON SENTINEL "L-5"

33½" Wingspan

This model is a consistant winner at National Meets. It is a commercial version of the Army's "Flying Jeep."

$1.95

STINSON VOYAGER "150"

34" Wingspan

Equipped with wing slots, this authentically detailed model flys with the best. Designs in this series have been chosen for performance.

$1.95

FAIRCHILD 24 "RANCHER"

36½" Wingspan

Largest in the series is the never to be forgotten Fairchild. Stable, strong, detailed, it is ideal for contest experimentation.

$1.95

AERONCA SEDAN

34" Wingspan

Featured as a landplane, plans show pontoon details for those desiring the added thrill of water take-offs. Finished model is really spectacular.

$1.95

CULVER "V"

29" Wingspan

This low-wing sport plane turns in long stable flights. The tricycle landing gear adds realism to landings.

buy BERKELEY at your local dealer!

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Berkeley's "ZILCH"

Designed by Jim Saftig—

KING OF ALL STUNT MODELS-

The "ZILCH" design has proven itself America's most consistent winner in Stunt. It has won numerous first places in every age category in almost every National and International Meet since introduced in 1947.

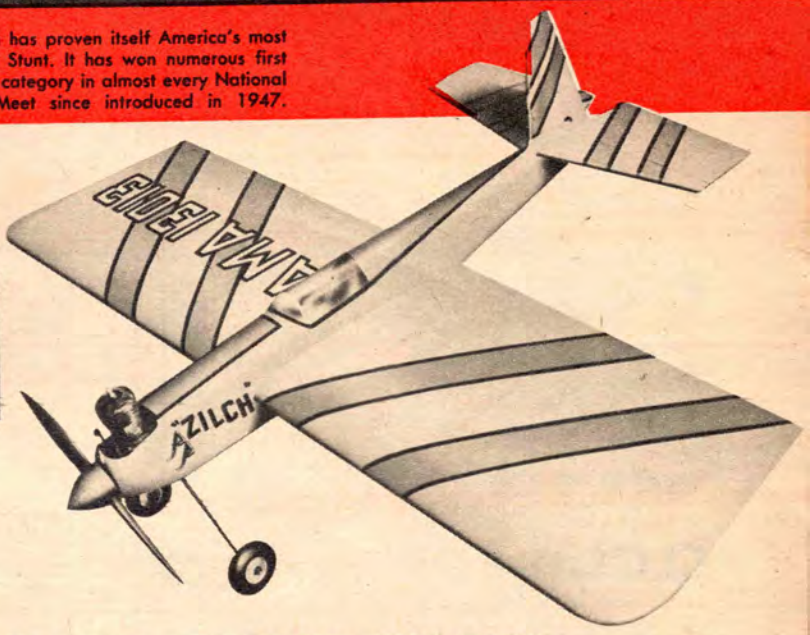
"MINI-ZILCH"
.020 to .049 Engines — 20" Wingspan
$1.25

Each "Zilch" Kit Features:

- Complete Hardware and Wheels
- Celluloid, Motor Mounts, etc.
- Full Size Plans, Covering, etc.
- Shaped and Notched Wing Edges
- Jim Walker "U-Control" System
- Die-Cut Balsa and Plywood

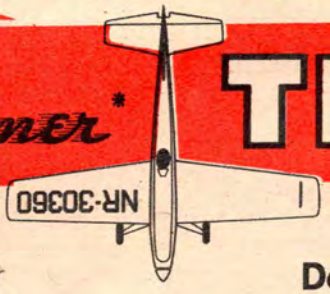
"WEE-DUPER ZILCH"
.045 to .099 Engines — 34" Wingspan
$2.95

"LIL-DUPER ZILCH"
.19 to .29 Engines — 42" Wingspan
$3.95



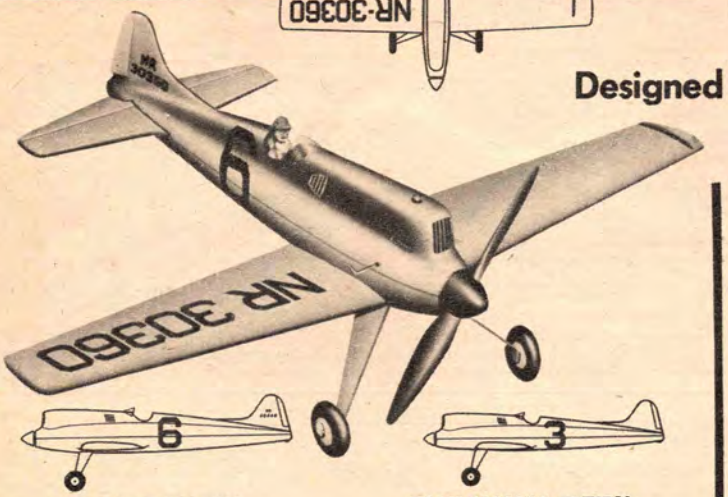
"SUPER-DUPER ZILCH"
For .45 to .65 Engines — 52" Wingspan
$5.95

Controliner* TEAM RACERS!



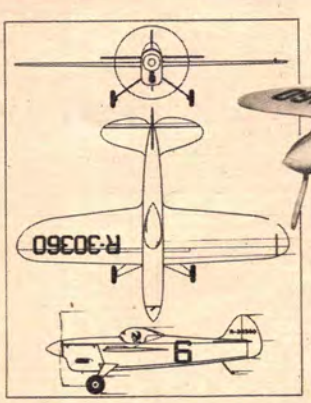
Team Racing opens up an entirely new field for Controliner* Speed Flying. Two or more models are flown in the same circle. They race from a standing start, and must land and refuel during the race. Complete Team Racing Rules are included with each kit.

Designed by Keith Storey— Former National Speed Champ, National Speed Record Holder, and one of the originators of Team Racing.



THE "KEY"
For .23 to .36 Engines — 29" Wingspan
A fully carved fuselage, all metal landing gear and shaped wing surfaces simplify construction
$5.95

THE "KEY-DET"
.074 to .099 Engines — 18" Wingspan
Designed for the smaller engines, this kit is pre-fabricated in same manner as the "Key."
$2.95



$4.95

"THE QUEST" Team Racer .23 to .36 Engines

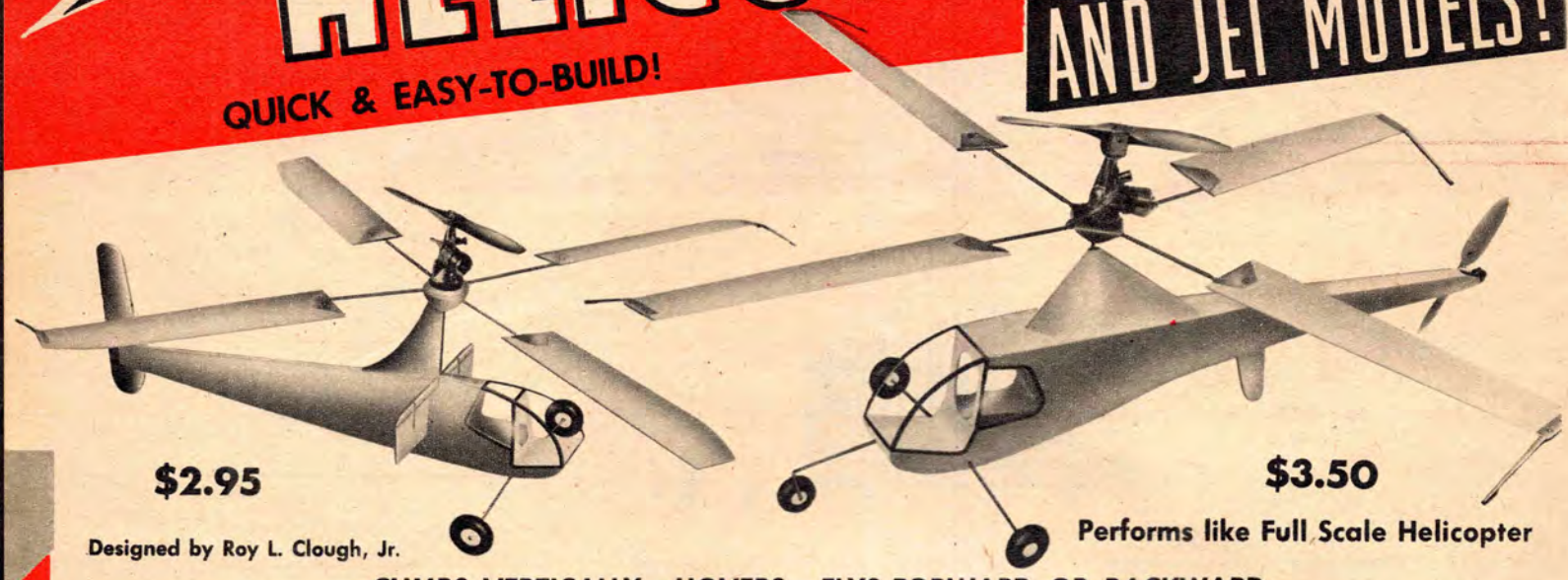
"The Quest" is the newest addition to our line of Team Racers. The design features a readily assembled sheet planked fuselage assembled on a basic fuselage box A metal cowl, celluloid canopy, formed sheet metal gear, wheels, Jim Walker "U-Control" System, all necessary hardware, and die-cut parts are included.

buy BERKELEY at your local dealer!

If no local dealer is convenient, mail orders will be filled by Berkeley Model Supplies, Dept. AT., West Hempstead, N. Y. Please include 25¢ packing & postage.

Berkeley's HELICOPTERS AND JET MODELS!

QUICK & EASY-TO-BUILD!



$2.95

Designed by Roy L. Clough, Jr.

$3.50

Performs like Full Scale Helicopter

CLIMBS VERTICALLY—HOVERS—FLYS FORWARD OR BACKWARD

CLOUD-COPTER "D-2"

WITH "CYCLO-MATIC" CONTROL FINS

For .045 to .074 Engines — 26" Rotor Span

Here is a real advance in model flying. So new and different that the performance is almost unbelievable. You can actually adjust a "CLOUD-COPTER" to hover, fly forward or backward and even spiral climb like a conventional gas model. Fully automatic Cyclic and Collective Pitch Vanes, as on full-scale helicopters, permit the rotor to continue in the same direction after the engine stops. "CLOUD-COPTERS" are quickly built from our highly prefabricated kits.

CLOUD-COPTER "TR"

WITH ADJUSTABLE PITCH TAIL ROTOR

For .045 to .074 Engines — 25" Rotor Span

EACH "CLOUD-COPTER" KIT CONTAINS:

Complete Metal Rotor Mast Assembly; Metal Blade Holders designed for quick replacement of blades; Metal Blade Balance; Engine Shock Mount; Shaped Rotor Blades; Die-Cut Sheet Balsa fuselage; Wheels; Die-cut Celluloid Windshield.

Berkeley's

3 SIL-O-JETS

ALL THREE IN ONE BOX-
READY TO FLY
with "JETEX 50" Engine

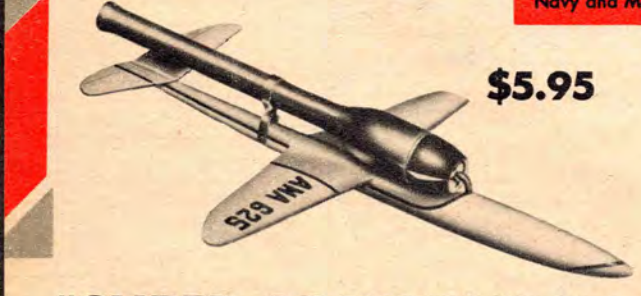
The "Jetex 50" Engine is instantly interchangeable between models.

$1.95 less fuel

F-9-F "PANTHER"
Famous carrier-based fighter used by Navy and Marines in the Korean War.

F-89 "SCORPION"
All-weather interceptor with terrific climb, for searching radar equipment.

F-94 "STARFIRE"
The first electronically controlled fighter, with all rocket armament.

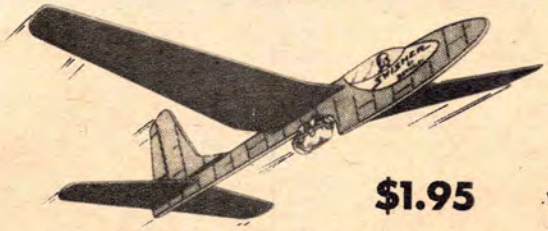


$5.95

"SUPER SQUIRT"

Dyna-Jet Engines — 21" Wingspan

160 to 180 miles per hour is what you can expect from this newest version of the National Jet Speed Champion—"Squirt." Pre-fabricated!



$1.95

Open the box, slip wing and stab into fuselage, fuel pellet into engine, and it's ready to fly. It can attain 500 feet altitude, fly almost out of sight. The Jetex engine alone retails for the combination price.

Ready-to-Fly

"SWISHER"

Jet Airplane

with Jetex 50 Engine and Fuel

Big 18" Wingspan

buy BERKELEY at your local dealer!

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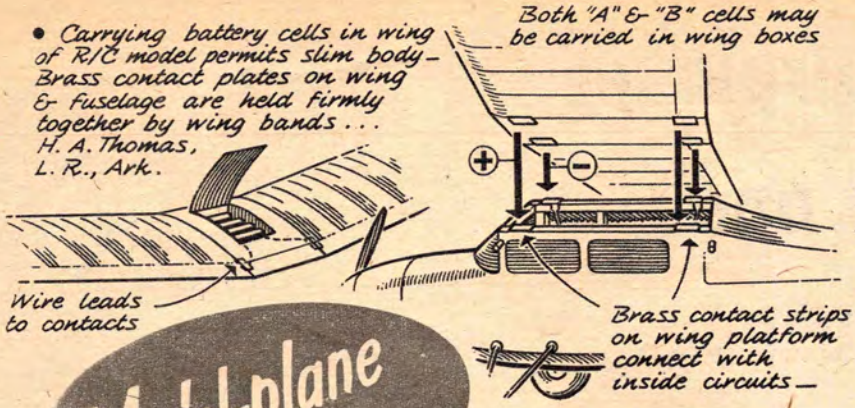
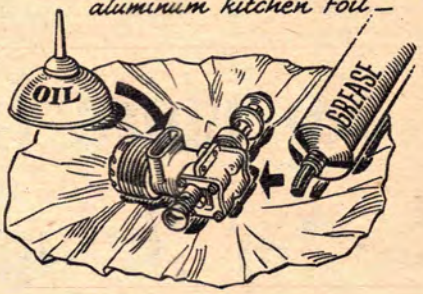
Model-plane SKETCH BOOK

• Carrying battery cells in wing of R/C model permits slim body—Brass contact plates on wing & fuselage are held firmly together by wing bands . . . H. A. Thomas, L. R., Ark.

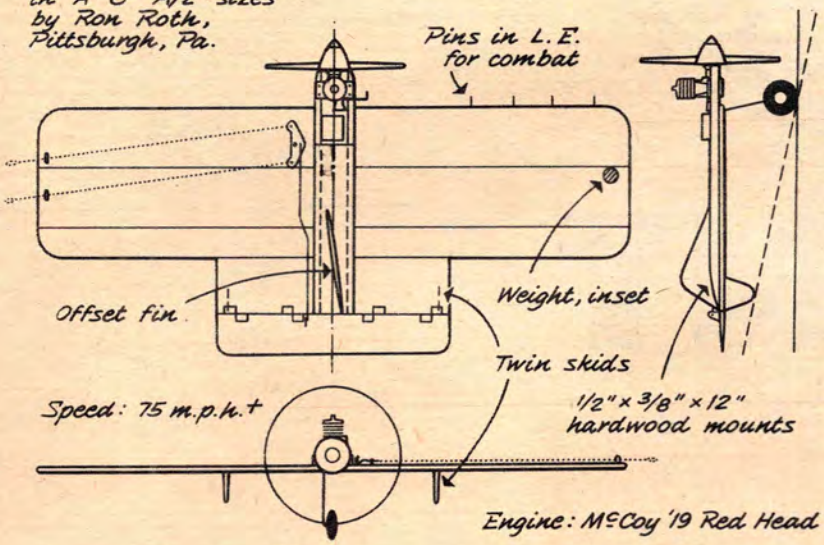

Both "A" & "B" cells may be carried in wing boxes
Wire leads to contacts
Brass contact strips on wing platform connect with inside circuits—

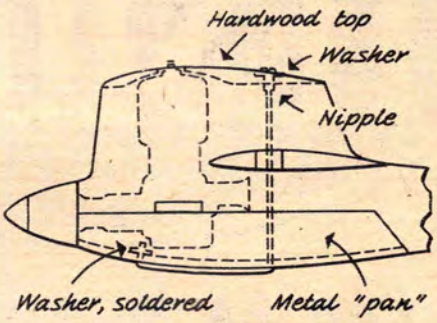
• For safe engine storage, Bill Wiese, Tipton, Kan., greases and oils engine, wraps it in aluminum kitchen foil—



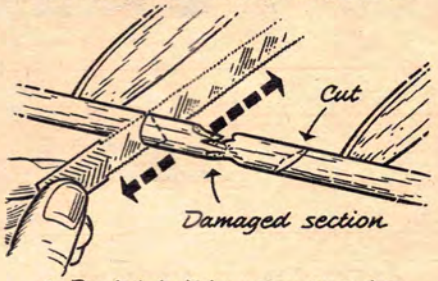
Have you developed something new in construction, control or flying? Send a rough sketch—we'll redraw it and pay $10 for each accepted. Contributions should be original ideas. Send them to Air Trails HOBBIES for Young Men, 304 E. 45th St., N. Y. C. (17).

• "Slab" is ultra-simple combat design built of 3/16" balsa sheets . . . extremely maneuverable. Built in "A" & "A/2" sizes by Ron Roth, Pittsburgh, Pa.



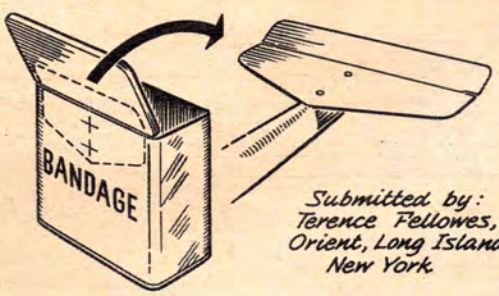


• Bicycle spoke can serve as belly skid & hold-down fitting for speed models reports Alan Knox, San Francisco, Calif.

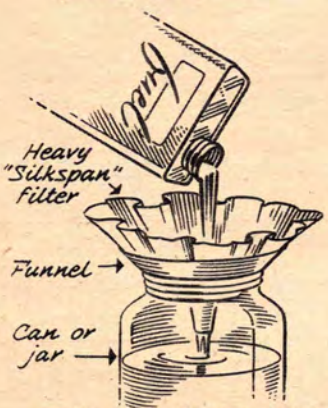


• Dental "ribbon saw" makes extremely fine, delicate cuts—Ideal for repair work . . . Damaged piece can serve as pattern for new part—From L. W. Carpenter, Elizabethton, Tenn.

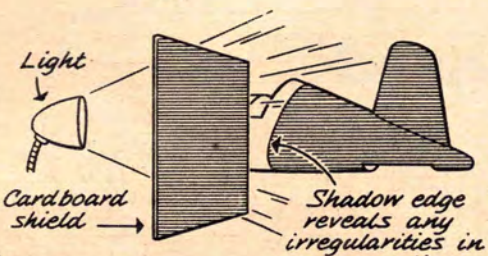
• Large bandage box yields complete tail with hinge for A/2 speed model—



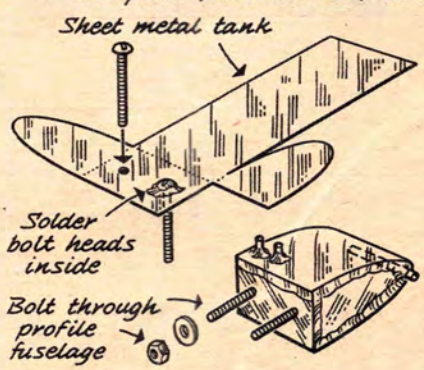
Submitted by: Terence Fellowes, Orient, Long Island, New York



• No need for special fuel filter materials claims Chesley Lyon, Knoxville, Tenn.—Silkspan scrap does job thoroughly . . .



• Clever solid model trick by Tony Howard, Seattle, Wash., assures smooth, accurate shaping—



• Simple, trouble-free tank mounting for profile control-line models recommended by Frank Altenburg, Baltimore, Md.

To build better airplanes for more fun and better flying, use...

TESTORS

CEMENT

and

DOPE

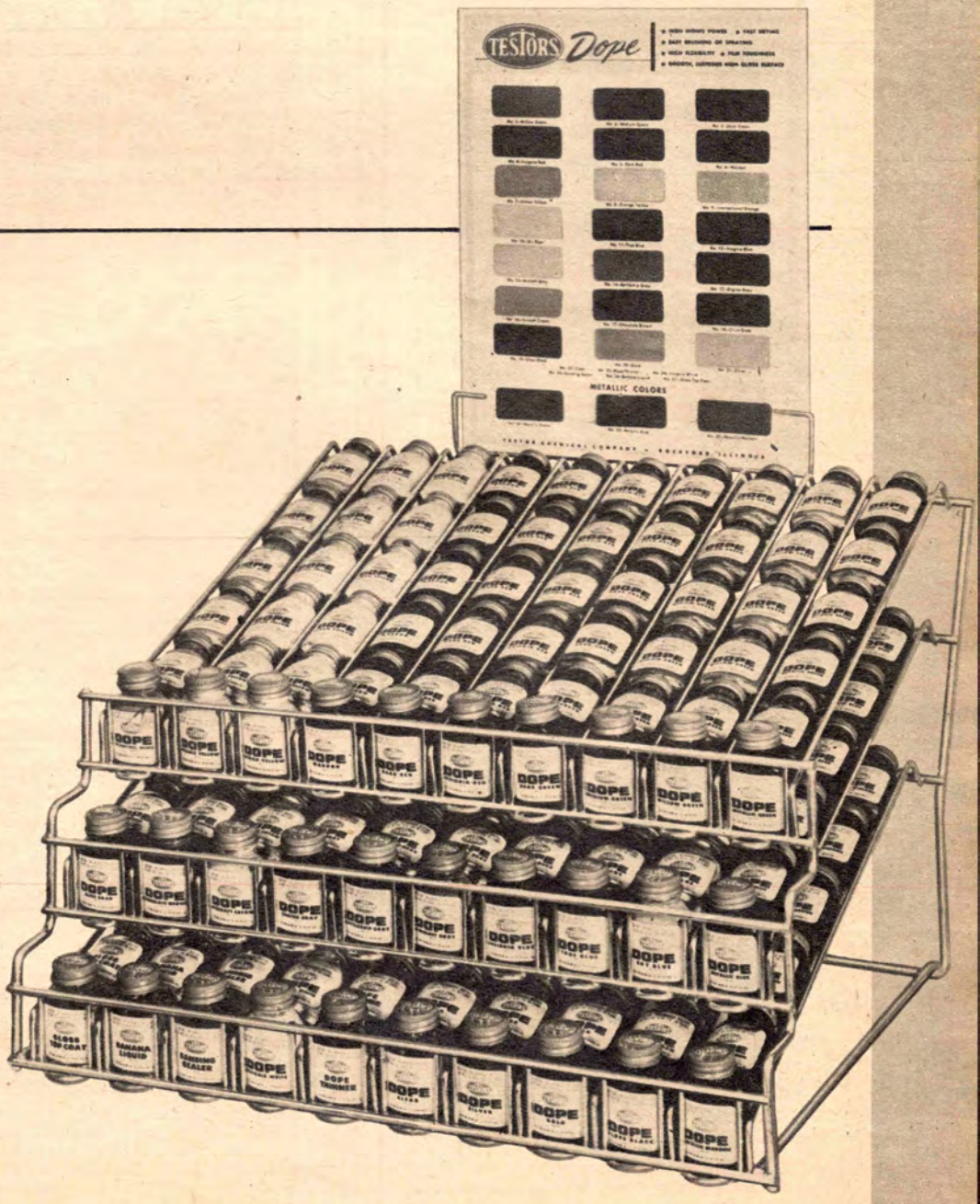
...Look for these handy dispensers at your favorite model-hobby shop

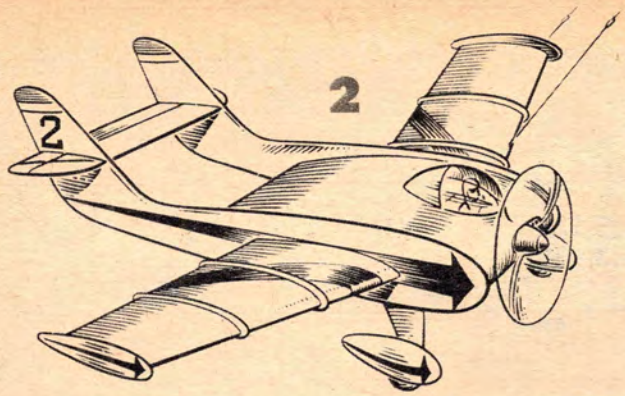
TESTOR CHEMICAL COMPANY • ROCKFORD, ILLINOIS

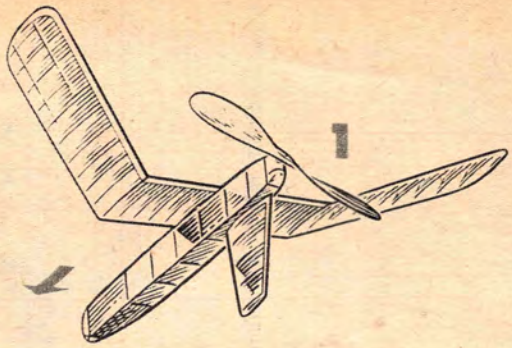
TESTORS
MODEL AIRPLANE
Cement
FORMULA B
FAST DRYING
Strong!

TESTORS
CAUTION: INFLAMMABLE MIXTURE
DO NOT USE NEAR FIRE OR FLAME
TESTORS
DOPE
INSIGNIA RED
NO. 4
TESTOR CHEMICAL CO. ROCKFORD, ILL.

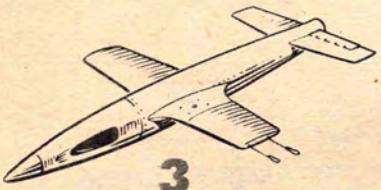
TESTORS 15¢
MODEL AIRPLANE CEMENT
FORMULA 'B'
FAST DRYING
TESTORS
MODEL AIRPLANE
Cement
FAST DRYING
Strong!

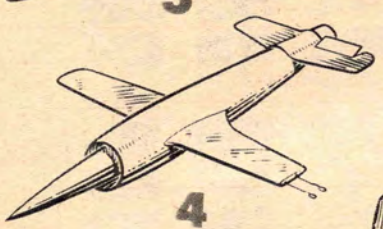

TESTORS Dope
METALLIC COLORS
DOPE

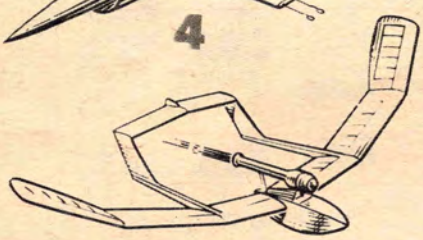




New Slants in model design

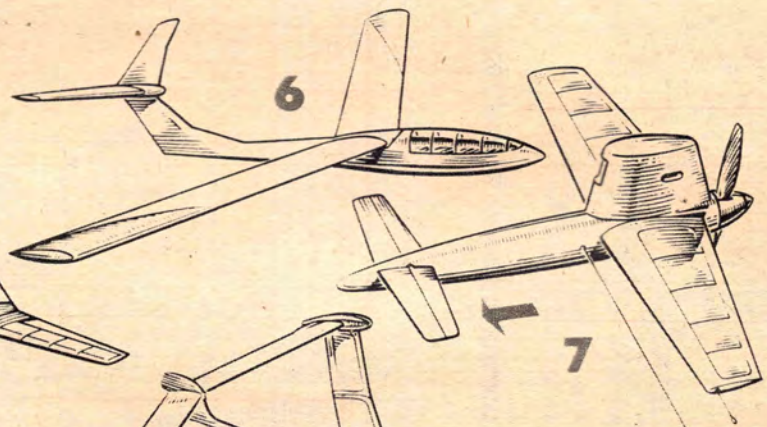


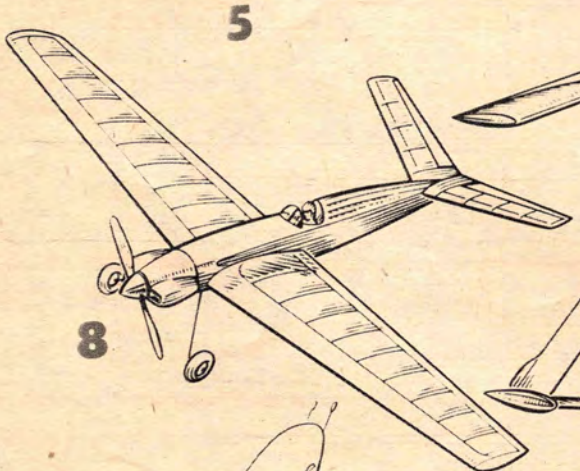


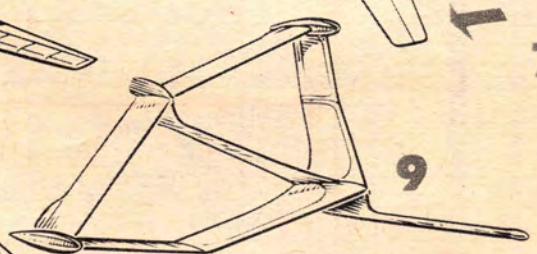


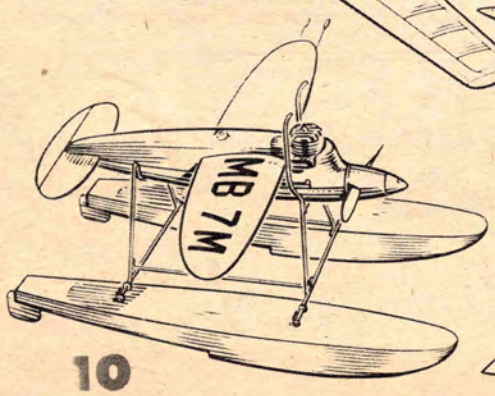
1. F.A.I. rubber-powered pusher (Germany). **2.** Burnelli by Gordon Seymour, Shawnee, Oklahoma, spans 26 inches. McCoy .29 Red Head. **3.** Czech jet, all metal, won Czech Nats and International competition (160 mph plus). **4.** Another European jet, clips off 168 mph. **5.** Free flight jet powered not unusual in Europe. **6.** Dutch sailplane spans 10 feet. **7.** Russian tail-first control line speed model. **8.** Free flight English with pendulum elevators in "V" tail. Spans 41 inches. **9.** German glider. **10.** F.A.I. world record R.O.W. speed control-line by J. C. Caillon, France. Float gear drops free. Micron .29 engine; 105 mph. **11.** Indoor tailless pusher, Russian-Polish design. **12.** Odd Polish free flight.

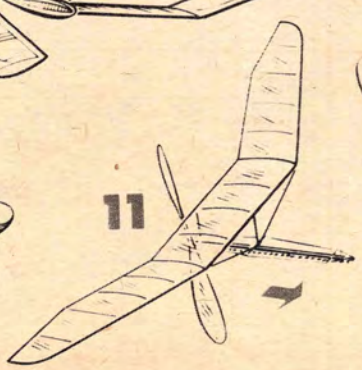
Note: Air Trails HOBBIES will pay $10 for each unusual design used in "New Slants." Send photo of model and complete description to New Slants, Air Trails HOBBIES, 304 E. 45th St., N. Y. C. (17).

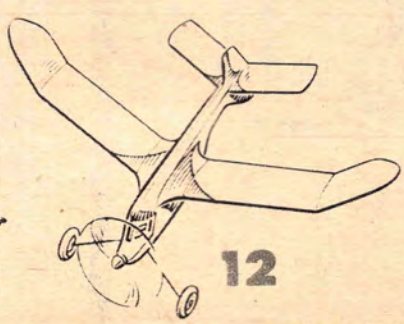












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Designed to ½" to 1' Scale

Start Your Collection Today!

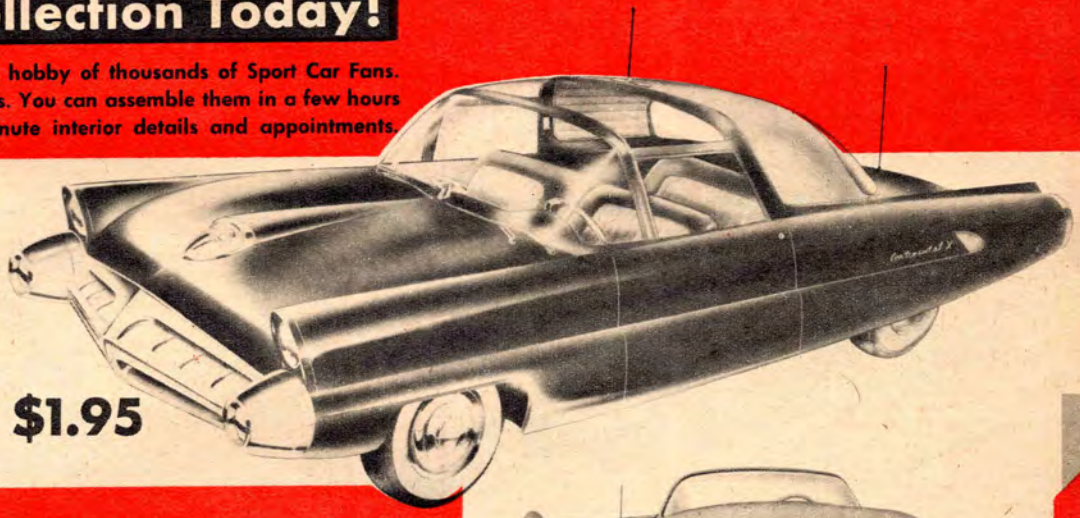
Building detailed sport car models is the hobby of thousands of Sport Car Fans. Berkeley Kits satisfy all types of builders. You can assemble them in a few hours or spend delightful days in adding minute interior details and appointments.

FORD "X-100"

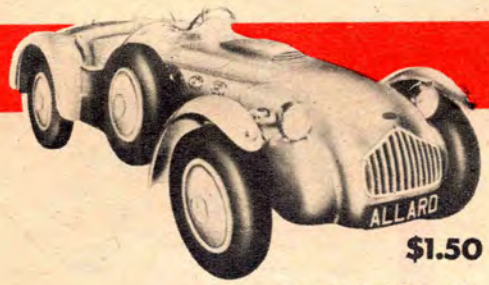
Embossed Plastic Hard Top and Windows!

Ford Motor Company's 300 horsepower "X-100" two door convertible features a retractable transparent roof panel, seat warmers, 12 venturi carburetion system, radio phone, dictaphone, shaver, power steering, etc.

Enlarge your collection with this sensational car of the near future. Embossed plastic hard top, carved body, decals and castings will appeal to meticulous craftsmen. Full size plans complete in every detail.



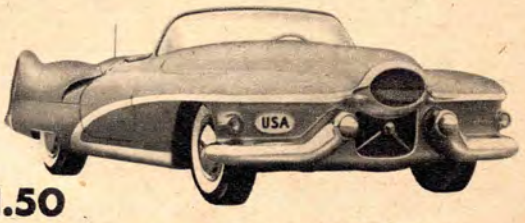
$1.95



$1.50

British "ALLARD"

English built, Cadillac powered, 130 mph



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General Motors "LE-SABRE"

330 Horsepower Experimental Car.

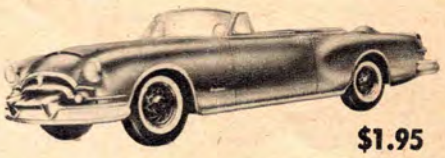
Each Sport Car Kit Includes:

- Jewelry Cast Metal Bumpers, Grill, Lights and Steering Wheel, etc., as required by the design.
- Stamped Metal Hub Caps • 4 to 6 Rubber Wheels
- Fully Carved and Hollowed One Piece Balsa Car Body
- Plastic Upholstery • Detailed Full Size Plans
- Authentic Decals • Full Width Metal Axles

$1.50

"NASH HEALEY"

English body Nash engine, 106 mph.



$1.95

Packard "CARIBBEAN"

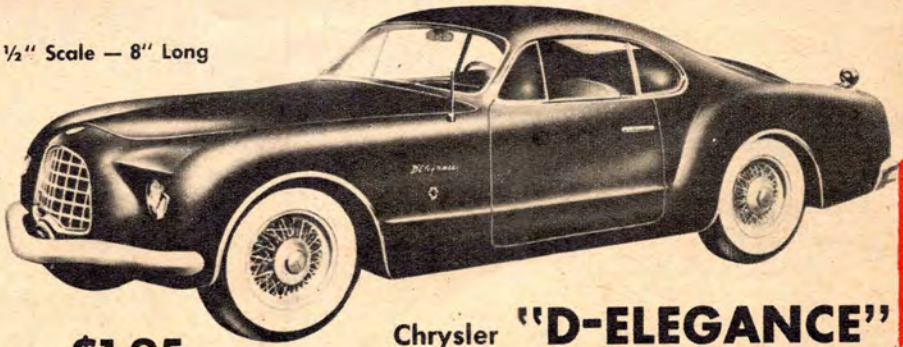
American built Sport Convertible by Packard.

$1.50

British "JAGUAR"

123.6 mph English Sports Car.

½" Scale — 8" Long



$1.95

Chrysler "D-ELEGANCE"

Embossed Plastic "Hard Top" and Windows!

Chrysler's new Sport Car, Italian built body.

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MODEL BOATS..

by Berkeley

NEW

Naval Architecture in Miniature at its very best!

Our Designers all have Full Scale Boat and Airplane experience. The combination of Naval Architecture and Aerodynamics has produced models that are outstanding in performance and design.

All Scale "Chris-Crafts" are designed by the Intersecting Conical Lofting Method. Mahogany Veneer construction is used throughout. All wood parts are accurately Die-Cut to shape, and need only be assembled.

Chris-Craft

"OUTBOARD EXPRESS CRUISER"

For Electric Outboard & Inboard Engines

18" Long— 1" Scale

The ideal kit for the new model electric outboard motors, or an electric inboard motor. Designed from factory plans, authentic down to the special "Chris-Craft" decals.

Kit is complete and priced at . . .

$2.95

22 Foot Chris-Craft

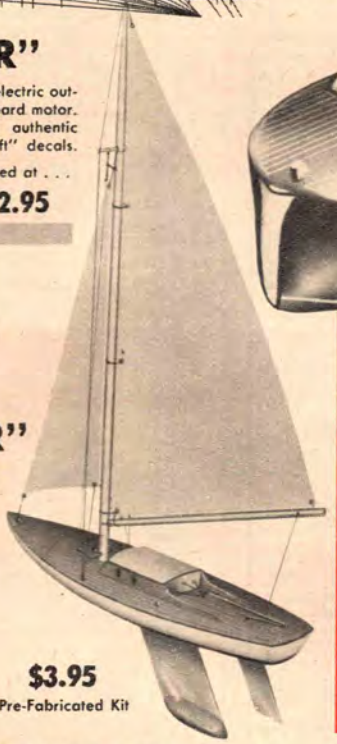
"EXPRESS CRUISER"

For .045 to .099 Engines, or Small Electric Motors

⅜" Scale—14" Long— 4½" Beam

A really beautiful model on your shelf or on the water. Performance and planning characteristics are comparable to Riviera-Runabout. Both are built to the same scale. "½A" Marine Hardware and Deck Hardware is included.

$3.50



$3.95
Pre-Fabricated Kit

19 Foot Chris-Craft

"RIVIERA RUNABOUT"

For .035 to .099 Engines—12" Long

This test model pictured here crossed the Connecticut River at full throttle. It is hard to describe its realism in the water. You have to see it to believe it. Kit includes: "½-A" Marine Hardware, plus Metal Bowplate and Deck Hardware.

$2.95

"SEA-JET"

Complete with "JETEX 50" Engine

A complete high speed jet powered boat that races 400 feet in 15 seconds. May be adjusted for turn. The hull is formed from strong colored plastic. Engine is installed in model.

$1.95

"½A" MARINE HARDWARE SET

For .035 to .099 Engines

$1.00

Ready-made parts include: Engine Coupling; Shaft; Shaft Tube; Strut; Propeller.

"A-B" MARINE HARDWARE SET

For .014 to .036 Engines

$2.95

All parts are ready-made. Set includes: Cast Propeller; Cast Strut; Engine Coupling; Drive Shaft; Stuffing Box; and Hook-up Plates.

SAILABOUT "16"

Overall Length—15¼" Height—25¾"

The Sailabout "16" is a scientifically designed sailboat with amazing speed. It has a regatta record to prove it. The rudder is timer-operated by a fuse mechanism that makes the boat "Come-about", and return over the same course.

Sails are included, ready to use. The hull is balsa, completely carved and hollowed. Scored Deck and Cabin are Die-Cut Mahogany Veneer. Molded Metal Keel and Complete Hardware.

Easy-to-Assemble "A-B" Race Boat—

SEA BIRD "RC-28"

- Pre-Fabricated Mahogany Veneer Covering
- Completely Pre-Fabricated Balsa & Plywood Structure
- Full Size Plans Including Radio Control Installation Details

$3.95

The Sea Bird "RC-28" was designed for use either with or without radio control. Simple to build, it enables the builder to race the boat the next day after he buys the kit! Construction is simple, along aerodynamic lines. No difficult bending or forming of parts. Without R.C. it can be used either free-running or on a tether line. Note dual rudders.

.09 to .35 Engines — 28" Length

Designed for Radio Control!

$1.95

.049 to .075 Engines

14" Length

SEA BIRD "14"

The Sea Bird "14" is an aerodynamically designed speed boat. Simple to build with flat sided airfoil shape. No compound bends to make. Designed for free-running or a tether line. Kit includes: Pre-fabricated Mahogany Veneer; Full Size Plans; Completely Pre-fabricated Balsa and Plywood Structure; plus Marine Hardware including: Prop, Strut; Stuffing Box; Shaft and Coupling.

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FREE-FLIGHT - WAKEFIELD - FLYING BOATS - R.C.

Berkeley's FLY THE BEST!

N.A.C.A. "Long Planing Hull"

½A "PRIVATEER" Flying Boat

For .035 to .074 Engines — 36" Wingspan

$2.95

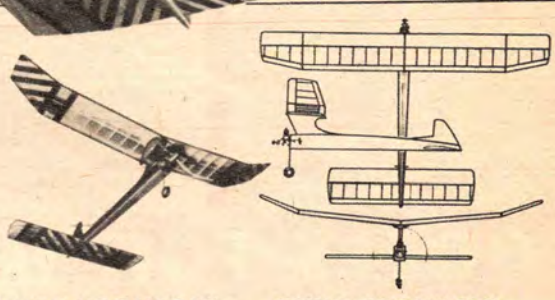
The N.A.C.A. "Long Planing Hull" design insures perfect water take-offs. Less than 15 foot run with an .035. All metal nacele and motor mount. All balsa die-cut fuselage; dummy wheels; die-cut celluloid; full size plans.

"SANDY HOGAN"

.29 to .35 Engines — 70" Wingspan

Featuring warp resistant "Hoganamic" construction, this proven design has amassed an enviable contest record. Die-cut parts, complete hardware, etc.

$5.95



"MINI-HOGAN 34"

34" Span—.035 to .074 Engines

$1.95

"MINI-HOGAN 45"

45" Span—.074 to .099 Engines

$2.95

Designed by Denny Davis. Pre-fabricated

$3.95

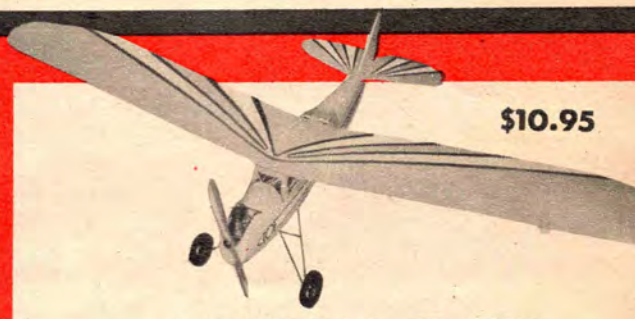
"SUPER-CLOUD"

Deluxe Advance Design for New Wakefield Rules!

Designed by Henry Struck in the fine tradition of his famous "Flying Cloud," this new model is the culmination of 15 years of test research on Wakefield models. It has been designed for maximum performance under the new Wakefield rules.

Specially selected Balsa throughout; special Hardware for the Folding Propeller; Milled-Shape Balsa Propeller Blank; Covering Materials; and extra-complete Plans and Instructions.

51" Wingspan — 210 Sq. "
8.113 Oz. Total Wgt.



$10.95

America's "FIRST" Gas Model Kit...

"SUPER BUCCANEER"

.60 to 1.20 Engines
7½ Foot Wingspan

For radio control experimentation. Eiffel section; multispar wing; 8.3 square ft. area; 5½ lbs. flying weight; heavy duty landing gear. This model has won over 200 contest places.

The Best in "½A" PAA-Load...

$2.50

"½A" "BOOTSTRAPS"

.035 to .049 Engines — 40" Wingspan

"½ A" Bootstraps is an improved version of Henry Struck's Mirror Model Flying Fair PAA-Load winner. Construction is light, yet unusually strong. Meets all rules for PAA-Load. Die-cut Balsa, Plywood, Formed Gear, Full Size Plans, etc.

BUCCANEER "B" SPECIAL

For .23 to .36 Engines — 56" Wingspan

$3.95

BUCCANEER "C" SPECIAL

For .45 to .65 Engines — 72" Wingspan

$7.95

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Berkeley's PACKAGED FITTINGS

Original Line of Packaged Model Supplies

NON-KINK WIRES

.004 dia. x 2 - 35 foot lines..	$.35
.006 dia. x 2 - 35 foot lines..	.35
.008 dia. x 2 - 55 foot lines..	.50
.010 dia. x 2 - 55 foot lines..	.50
.012 dia. x 2 - 55 foot lines..	.50
.008 dia. x 2 - 70 foot lines..	.65
.010 dia. x 2 - 70 foot lines..	.65
.012 dia. x 2 - 70 foot lines..	.65
.014 dia. x 2 - 70 foot lines..	.65
.016 dia. x 2 - 70 foot lines..	.65
.010 dia. x 2 - 150 foot lines.	1.00
.012 dia. x 2 - 150 foot lines.	1.00
.014 dia. x 2 - 150 foot lines.	1.00
.016 dia. x 2 - 150 foot lines.	1.00

STRANDED STAINLESS

.012 dia. x 35 feet.....ea.	$.50
.015 dia. x 55 feet.....	1.00
.021 dia. x 55 feet.....	1.00
.015 dia. x 70 feet.....	1.25
.021 dia. x 70 feet.....	1.25
.015 dia. x 200 feet.....	3.50
.021 dia. x 200 feet.....	3.50

SPEED WIRE

.011 dia. x 400 feet.....ea.	$1.00

MUSIC WIRE

.014 x 36".....ea.	$.02
.020 x 36"..... 2 for	.05
.028 x 36".....	.04
.034 x 36" (1/32").... 2 for	.09
.040 x 36"..... 2 for	.09
.049 x 36".....	.05
.063 x 36" (1/16").....	.06
.093 x 36" (1/32").....	.12
.125 x 36" (1/8").....	.20

ALUMINUM SHEET METAL

Packed in Individual Envelopes

.010 x 12" x 12".....ea.	$.45
.020 x 4" x 12".....	.30
.020 x 12" x 12".....	.70
.032 x 4" x 12".....	.45
.064 x 4" x 12".....	.65

COPPER SHEET METAL

.005 x 4" x 12".....ea.	$.25
.010 x 4" x 12".....	.40
.016 x 4" x 12".....	.50
.016 x 12" x 12".....	1.25
.032 x 4" x 12".....	.90
.032 x 12" x 12".....	2.50

BRASS SHEET METAL

.005 x 4" x 12".....ea.	$.30
.010 x 4" x 12".....	.45
.016 x 4" x 12".....	.60

DOWELS

1/16" Dia. x 12".... Dozen	$.10
1/8" Dia. x 12"..... Dozen	.10

CONTROLINE FITTINGS

Order by Package Number —

"B" Accessories .....ea.	$.25
C-1 Hinge Stamping	.15
C-2 "A" Snap Swivel	.15
C-3 "B-C" Snap Swivel	.20
C-4 "B-C" Bell Crank	.25
C-5 Adjustable Push Rod	.25
C-6 "A" Bell Crank	.20
C-7 Racing Bell Crank	.20
C-8 Pinked Tape	.15
C-9 Snap Connectors	.15

MAHOGANY PLY

Individually Branded and Priced

1/16" x 6" x 12".....ea.	$.25
1/16" x 12" x 12".....	.45
1/8" x 6" x 12".....	.25
1/8" x 12" x 12".....	.45

MAHOGANY MOUNTS

1/4" x 3/8" x 24".....ea.	$.06
5/16" x 1/2" x 24".....	.08
3/8" x 5/8" x 24".....	.10
1/2" x 1" x 24".....	.18
1/4" x 1/2" x 36".....	.09
5/16" x 5/8" x 36".....	.12

MAHOGANY VENEER

Individually Branded and Priced

1/28" x 4" x 18".....ea.	$.12
1/28" x 6" x 24".....	.24
1/28" x 8" x 30".....	.40
1/16" x 6" x 24".....	.30
1/16" x 8" x 30".....	.55

RUBBER MODEL FITTINGS

Order by Package Number —

"A" Accessories .....ea.	$.25
R-1 1/8" Prop Washers	.10
R-2 1/4" Prop Washers	.10
R-3 Cupped Washers 3/16".	.10
R-15 Eyelet 1/16 x 3/16"..	.10
R-16 Eyelet 3/32 x 3/16"...	.10
R-17 Eyelet 1/8 x 3/8".....	.15
US-1 Rubber 1/8" x 25'....	.30
US-2 Rubber 1/8" x 50'....	.55
US-3 Rubber 3/16" x 25'...	.45
US-4 Rubber 3/16" x 50'...	.85

ALUMINUM TUBING

1/16" dia. x 12".....ea.	$.10
3/32" dia. x 12"	.10
1/8" dia. x 12"	.12
5/32" dia. x 12"	.12
3/16" dia. x 12"	.15
1/4" dia. x 12"	.15

COPPER TUBING

1/16" dia. x 12" .....ea.	$.15
1/8" dia. x 12"	.20
3/16" dia. x 12"	.25

BRASS TUBING

1/16" dia. x 12" .....ea.	$.12
3/32" dia. x 12"	.14
1/8" dia. x 12"	.16
3/16" dia. x 12"	.20
1/4" dia. x 12"	.24

IGNITION FITTINGS

Order by Package Number —

E-1 Tip Jacks	$.30
E-4 Alligator Clips	.30
E-5 Solderless Plugs	.30
E-6 Connector Lugs	.10
E-7 G.P. Connector Set	.50
E-8 Slide Switch	.25
I-2 Glow Plug Gaskets	.10
I-5 Hook-up Wire	.15

GAS MODEL FITTINGS

G-1 3/32" L.G. Washers...	$.10
G-2 1/8" L.G. Washers....	.10
G-3 Spade Bolts	.15
G-5 Bolts-Nuts 2-56 x 3/4..	.10
G-6 Bolts-Nuts 4-40 x 1"...	.20
G-7 Bolts-Nuts 4-40 x 1½..	.20
G-8 Lock Washers No. 2....	.10
G-9 Lock Washers No. 4....	.10

MODELS FOR BEGINNERS...

BERKELEY'S "MODEL BUILDING COURSE"

Here is the kit for group building at your Model Club, Scout Troop, Cub Pack, or School Manual Training Class. If you want to start building models right, this course is for you.

GLIDER

ALL-BALSA TRAINER

CABIN ENDURANCE

3 BASIC MODELS and A Big 16 Page Book - MODEL AIRPLANE BUILDING SECRETS!

Chapters cover: Building, Flying and Adjusting Fundamentals; Fuselage Construction Methods; Covering and Finishing; Trouble Shooting for Better Flights; Controline Systems; Speed Flying and Power Plants. Hundreds of illustrations.

ALL 3 MODELS & BOOK FOR **75c**

Kits Include: Airfoiled Glider-R.O.G. Wing; Die-Cut Fuselages; Tail; Plastic Prop; Rubber; Formed Wire; Wheels; Covering; Die-Cut Parts; Strip Balsa; Full Size Plans for All Three Models.

"MIGHTY-MIDGETS"

Only **59¢** Each

Free-Flight — Rubber Power Pre-Fabricated

"DRAGON"
• A rugged biplane!

"V-16"
• A "Goodyear" type racer!

"PAYLOADER"
• Lifts ¾ ounce payload!

"BANDIT"
• A high climbing sport job!

The "Mighty-Midgets" are rubber powered high performance models which will climb well over 100 feet. Construction is built up, and is intended to be a secondary model for beginners.

SINBAD "40" 75¢

40" Wingspan — Towline-launched glider
Official AMA Junior Record Breaker.

SPORTSMAN "30" 95¢

Can be powered with rubber, CO-2 or gas engines up to .049.

buy **BERKELEY** at your local dealer!

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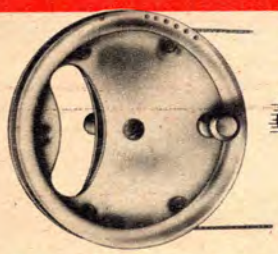
Berkeley's SUPPLIES & ACCESSORIES



BERKELEY'S

Controliner® FLIGHT UNIT

A complete, ready-to-use Reel-Handle-Line Combination. All-metal Reel-Handle with flexible steel cables and adjustable connectors. Just unreel, attach to the model's lead-in wires, and fly!

For "½A" and "A" Models
Complete combination with two—35 foot lengths of .012 stranded cable. **$1.95**

For "A" and "B" Models
Complete combination with two—55 foot lengths of .015 stranded cable. **$2.50**

BERKELEY'S

Controliner® All Metal FLIGHT REEL

with wire alignment guide

Lightweight aluminum discs with separate channels for each wire. Alignment Guide prevents wire from jumping groove. Supplied with lacquered wood handles and attaching screws.

Complete $1.25

NEW! UNIVERSAL "½A" MOTOR TEST STAND 39¢

BUBBLE CANOPIES

Deep Drawn Transparent Plastic

May be trimmed to meet your requirements for your own design models.

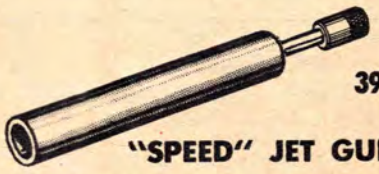
	Length	Width	Height	
"P-84"	4 7/8"	7/8"	5/8"	15c
"MINNOW"	7 1/4"	1 3/4"	1 1/8"	40c
"QUEST"	5"	2"	1 1/2"	40c
"P-51"	7 3/4"	2 3/8"	2"	85c
"P-47"	7 1/4"	3 1/4"	2 1/8"	85c
"F-8-F"	7 1/4"	2 1/2"	1 5/8"	85c
"T-28"	10"	2 3/4"	2 3/8"	85c

PACKAGED COVERING MATERIALS

"OO" White Silkspan	ea.	$.05
"GM" White Silkspan		.10
"SGM" White Silkspan		.15
"GM" Red Skysail		.10
"GM" Yellow Skysail		.10

Packed One Yard per Envelope

Silk White 36" x 36"	ea.	1.25
Silk Red 36" x 36"		1.50
Silk Yellow 36" x 36"		1.50
Silk Blue 36" x 36"		1.50
Silk Orange 36" x 36"		1.50
Nylon White	ea.	1.00
Sheet Celluloid 8" x 10"	ea.	.10



39¢

"SPEED" JET GUN

An all metal trigger operated jet gun for CO_2 cartridges. Adjustable—Replaceable needles.

All Metal

CONTROL HANDLE

Smooth casting of the proper weight and grip. Line is attached to bolts to provide adjustment.

Complete $1.00

RADIO CONTROL ACCESSORIES

MILLIAMMETERS

Low in cost, manufactured specifically for use with Super Aerotrol. 0-3 Milliammeter for use with Super Aerotrol Receiver. 0-50 Milliammeter for use with Transmitter.

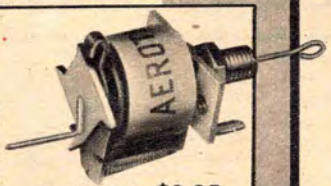
0.50 Milliammeter .... $2.75 **0.3 Milliammeter $3.50**

TUBES

XFG-1 RECEIVER TUBE.....$3.50
3A5 TRANSMITTER TUBE 2.25

"Super Aerotrol" ESCAPEMENT

Entirely new and different! Rugged yet compact. Single hole mount. Draws 2-5 times less current. Operated by rubber power, it will deliver at least twice the control operating force of other escapements without "skipping." Completely self-neutralizing after the signal stops.



Assembled only **$3.95**

"Super Aerotrol" INSTRUCTION MANUAL

This is the best book on Radio Control. Included at no charge with Transmitter. Sold separately, only **$1.00**

Pressurized

STUNT FUEL TANKS

Endorsed by Jim Saftig, National and International Stunt Champion

Berkeley Gas Tanks are precision deep-drawn from fuel resistant tin plate. Only one soldered seam eliminates leaking problems found in many other types of tanks.

The tanks are designed to give positive fuel flow during all control-line stunt patterns, in either upright or inverted flight. The filler tubes extend OUTSIDE the airplane, for ease of filling. They face into the wind stream to prevent "leaning-out" and stalling of engine at high speeds.

Mounted in a vertical position, Berkeley Gas Tanks are ideal for free-flight flying.

"MIDGET" ½" x ¾" x 1 1/4"—⅜ oz.		59¢
TYPE "A" ¾" x 1 1/4" x 2 1/4"—⅞ oz.		75¢
TYPE "B" 15/16" x 1 1/4" x 2 1/4"—1 1/4 oz.		75¢
TYPE "C" ⅞" x 2-1/16" x 2 1/2"—1 3/4 oz.		85¢
TYPE "D" 1 1/8" x 2-1/16" x 2 1/2"—2 1/4 oz.		85¢

buy BERKELEY at your local dealer!

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Berkeley MEANS THE BEST RADIO CONTROL EQUIPMENT & MODEL KITS!

27 m.c. Crystal Control

"SUPER AEROTROL"

RADIO CONTROL

NO OPERATORS LICENSE REQUIRED!

"Super-Aerotrol" is the original 27.255 Citizens Band Radio Control. Since its introduction, it has outsold all other makes. We have tested many modifications of the original "Super-Aerotrol" but present "Super-Aerotrol" under equal conditions cannot be out-performed by any similar type equipment.

COMBINATION OFFER

DE-Super Aerotrol Combination Kit—#201-K

Combination Receiver-Transmitter Kit that sells for **$29.95**

Includes everything found in both DE-202K and DE-203K Kits. By buying them together it saves you **$3.95**

READY-TO-OPERATE

SUPER AEROTROL

Including: **$49.95**

TRANSMITTER; ANTENNA; RECEIVER; ESCAPEMENT; & O-3 MILLIAMMETER.

"Super Aerotrol" Crystal Controlled

TRANSMITTER

In Kit Form: less tube **$19.95**

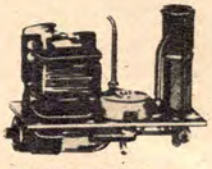
- Portable — Self contained — No separate antenna — No external Batteries!
- Operates on 27.2 mc. • Weighs 3.5 lbs.

Kit includes all necessary parts (except tube and batteries): Precision Ground Crystal; Painted Metal Cabinet; Finished Sectional Antenna; stamped and formed chassis with all holes punched; all necessary components, resistors, condensers, coils and chokes; color coded wiring. Can be assembled in less than two hours. Complete building and operating instructions are included.

"Super Aerotrol" Dust Core Tuned

RECEIVER

In Kit Form: less tube **$13.95**



- NEW "locked-channel" dust-core tuning.
- Light in Weight, 2¾ oz. less batteries.
- Super-regenerator circuit, dependable.

Kit includes: Finished, tested sensitive relay; finished dust-core tuner; drilled bakelite base with condensors and eyelets attached; all electrical components, condensors, resistors, coils, chokes and potentiometer; all necessary contacts, and color-coded wiring. Can be assembled in less than two hours. Complete instructions are included.

.14 to .23 Engines — 62" Wingspan

Dr. Walter Good's

"ROYAL RUDDERBUG" $6.95

A Proud Addition to Berkeley's Family of Fine Gas Models!

The entire model building world knows and respects Dr. Walt Good, many-time National R.C. Champion and re-knowned physicist. His new design is the best size for all-'round performance with single channel equipment.

The newest version of one of the most popular R.C. jobs ever designed. Simplified in construction, and improved in performance. A fine kit, produced to Berkeley's standards of completeness and engineering exactness.

$3.95

Variable Camber Wing for Radio Control Flying!

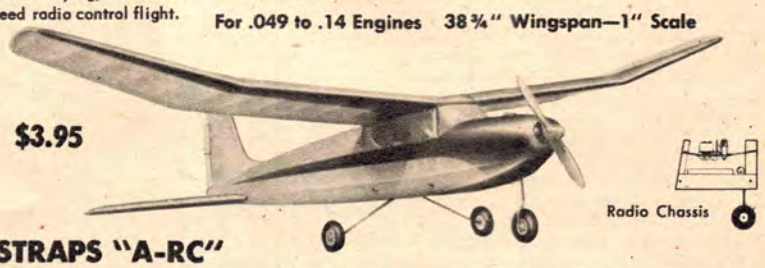
Slotted flaps may be depressed 10° for free-flight; depressed 25° for slow speed radio control flying; or raised 5° for high speed radio control flight.

Army Liaison YL-24

"HELIOPLANE"

For .049 to .14 Engines 38¾" Wingspan—1" Scale

$3.95



Radio Chassis

BOOTSTRAPS "A-RC"

For .09 to .14 Engines — 54" Wingspan

(Empty weight 21 oz. — Radio, Equip., 14 oz. max.)

Split rudder tab for separate trim adjustments. Clip-in prone engine mount, tri-cycle gear.

BRIGADIER "R. C.-38"

.035 to .099 Engines—38" Wingspan

This completely re-designed "½A—A" Free-Flight may be flown as a Radio Control job, a PAA-Load model, or a free-flight Sport Flyer. **$1.95**

"SUPER BRIGADIER"

58" Wingspan—For .19 to .36 Engines

Especially designed by Henry Struck for Radio Control and PAA-Load flying. **$4.95**

buy BERKELEY at your local dealer!

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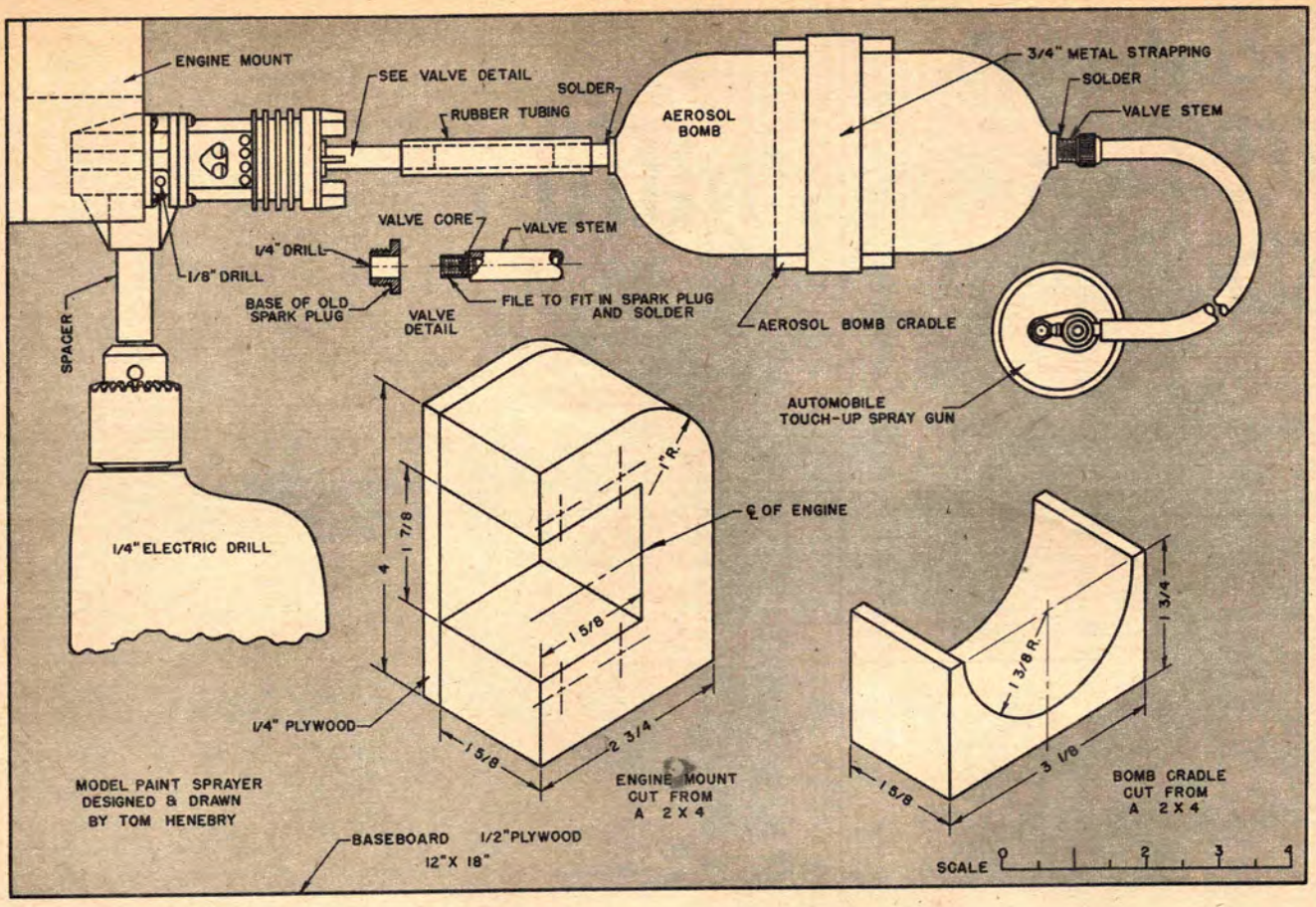


BUILD YOUR OWN Paint Sprayer FOR $1.25

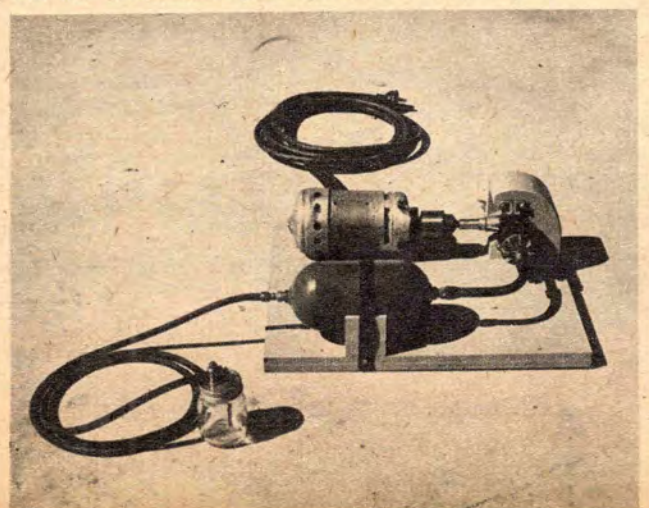
By TOM HENEBRY

■ If you have ever envied the slick finishes on some folks' models and then tried to duplicate them with a brush, you know that you need a spray outfit. But a good spray outfit costs upward of $20. However, with a little work, an old model airplane engine, a borrowed electric drill, two bicycle tire valves and an empty aerosol bomb, plus about $1.25 cash you can have a comparable unit.

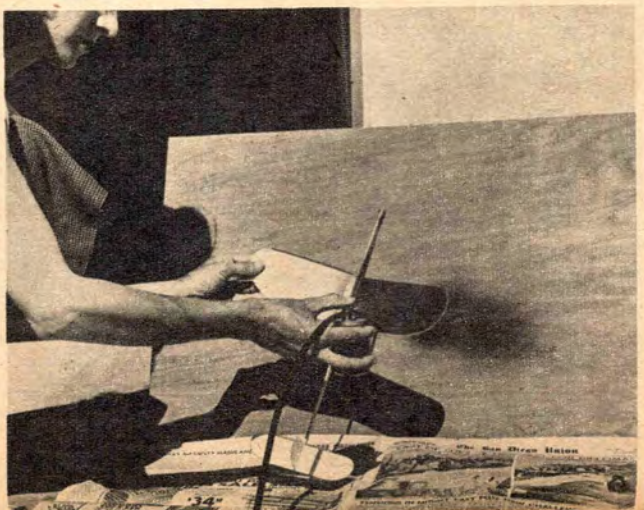
Any fair size model engine will work as compressor. If you have a choice, look for a large displacement engine with rings and ball-bearing shaft.

Once the selection is made, remove all unnecessary parts such as tank, needle valve, ignition parts and on certain engines the by-pass slide covers. On old engines, the ignition parts hold the crankshaft in proper fore and aft alignment; for these, a spacer should be made out of tubing as shown.

Finished sprayer is mounted on 12"x18" plywood board ½" thick. Be sure that electric drill is properly aligned with engine shaft. Shim with felt or rubber. Surplus aerosol bomb acts as pressure tank.

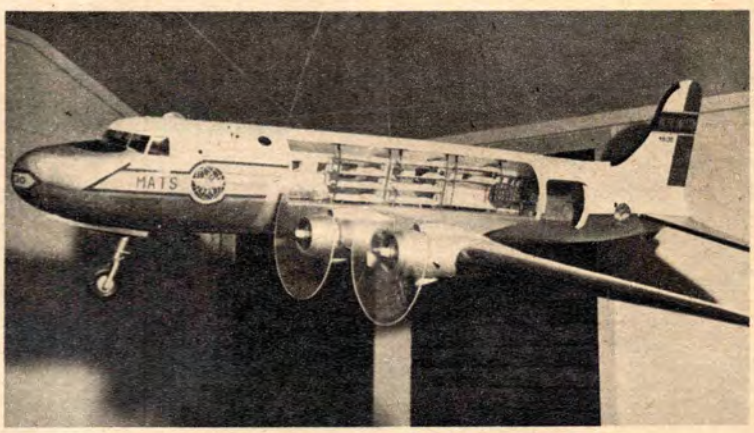


Spray gun can be purchased from an auto accessory store for about 89 cents. Spraying should be done in spurts to permit pressure to build up in tank. This home-built unit will do professional job.



MECHanics TECHnology SCIence PHOTO Revue

He's hanging out his teeth to dry! Big choppers on laundry line are not from mouth of some legendary giant; they were made for the Museum of Health, Cologne, Germany, to demonstrate tooth care in the museum and nearby schools. Must take some brush to clean them!



Wood model of Military Air Transport Service DC-6 air evacuation plane is combined effort of two Air Force medical technician-hobbyists, Airman 1st Class James E. Siegler and Staff Sergeant John J. Erwin, both of Hickam AFB, Hawaii. Giant model is over 6 ft. long, has wingspan of 7 ft. It is scaled 1/15th size of actual plane. Accurate in every detail including pillows on bunks.

Scale free flying model of Piasecki H-21 Work Horse Army helicopter and builder Michael Drozda, Piasecki engineer. Powered by a 1/5th hp model airplane engine which drives both rotors through geared down shafts with slip clutch. This permits blades to autorotate in event of engine failure. Rotor system is fully articulated, pitch can be adjusted by set screws. Transmission system patterned after big job.

New angle in transportation—powered skis. Designed by Stanley Van Voorhees of West Los Angeles, Calif., for rescue work and for hunters, trappers, and military ski troops, whose paths are off the beaten trails in snow-covered mountains. Rig consists of an outboard motor carried on back by shoulder straps, two flexible shafts, which drive caterpillar treads on the skis.

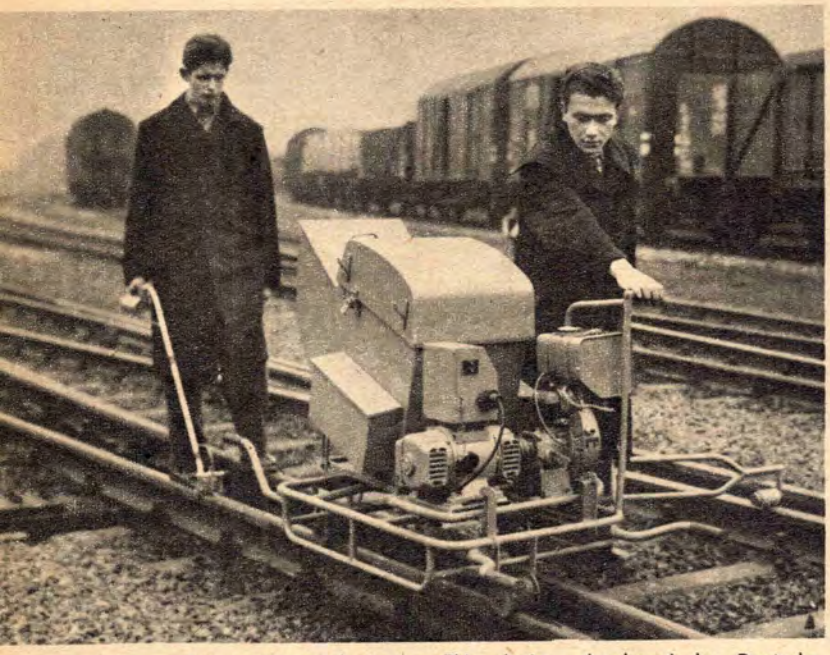
Something new added: Boeing B-17 "Flying Test Bed" bomber, modified to carry fifth engine in nose, a Pratt & Whitney T-34 turbine which turns a big "Dutch Windmill" prop. This is an experiment to test engine-propeller combination for turboprop aircraft. T-34 is rated at 5500 hp, more than the combined 4 piston engines of B-17.

C-V REGULUS FLIES WITHOUT PILOT

A guided missile is usually a one-shot affair. Once fired it's lost. But to properly test such a "bird" many have to be launched and flown before the bugs are ironed out. To prevent exorbitant cost during experimentation, Chance Vought Aircraft has equipped its Regulus missile with tricycle landing gear and tail chute to bring her back home in one piece. Regulus is followed by Lockheed T-2 mother plane which takes over radio control once the missile is off the ground, puts it through its paces, returns it to the ground control.

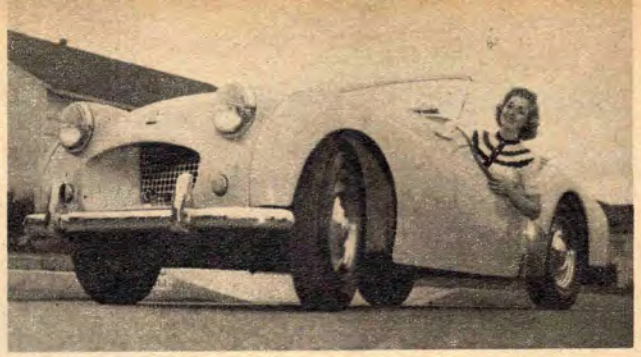
MR. AND MRS. SOUND

Les Paul of Oakland, N. J., was never formally trained in electronics. But what he knows about it is plenty and self taught. He and wife Mary Ford, former hill-billy singer with Gene Autry, perfected the technique of multiple recordings which with Les' electronic guitar and Mary's singing sound like an entire band and chorus. This technique dubbed "The Sound" naturally earned them their new nickname, "Mr. and Mrs. Sound." They both sing and play by ear, can't read music. Well known to both radio and TV audiences, their records are selling at a rate of 15,000,000 per year. Les acts as his own repairman on equipment.



Supersonic track tester. This device, developed by Deutsche Bundesbahn (German State Railways) laboratory shows cracks and wear of rails. Information is projected on special screen in front of operator (left). Works on system of supersonic sound waves.

Faster-than-sound, 1500 mph rail sled tests special parachutes used to save high-speed missiles from damage after high-altitude tests and drops. Irony—here's the world's fastest railroad, and to think it is operated by the United States Air Force at Muroc, Calif.!

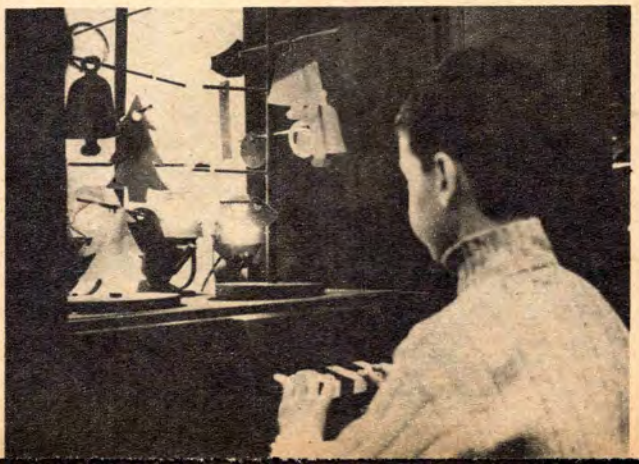


This little ground-hugging peanut is latest imported sports car, the British Triumph TR-2. It has a wheel base of 88 inches, is 151 inches long, and weighs 2000 lbs. Its 90 hp 4-cylinder Standard engine gives 24 mpg. Capable of 100 mph. Price tag is $2345.

Cartographer Charles Riddeford (right) of National Geographic Society displays his new collapsible globe which opens like umbrella. First earth globe (shown) was made by Greek, Crates, in 150 B.C.

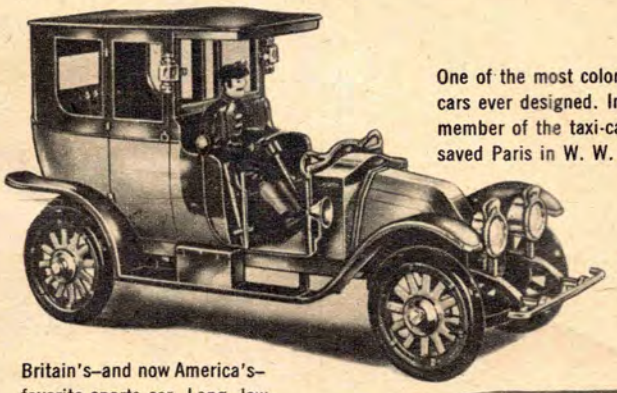
Left: Motor scooters are fine when the sun shines, but what happens when it rains? The Italians have solved this problem with some foul-weather gear shown on a Lambretta scooter at Milan. When not in use, the cover fits in a bag which stows under rear seat.

Color piano is an ultra-modern entertainment feature at New York's Museum of Modern Art. Operation of keyboard and foot-pedals moves the various shapes about as colored lightz shine on them.



FAMOUS NAMES IN FOREIGN CARS

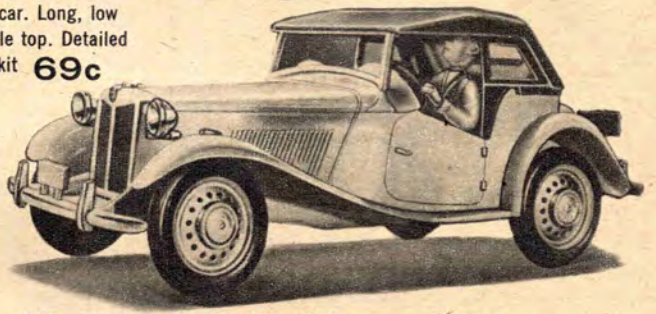
1918 Limousine
by
Renault



One of the most colorful, picturesque cars ever designed. Immortal member of the taxi-cab army that saved Paris in W. W. 1. **89c**

1953 Model T. D.
by
MG

Britain's–and now America's–favorite sports car. Long, low lines, convertible top. Detailed precision-built kit **69c**

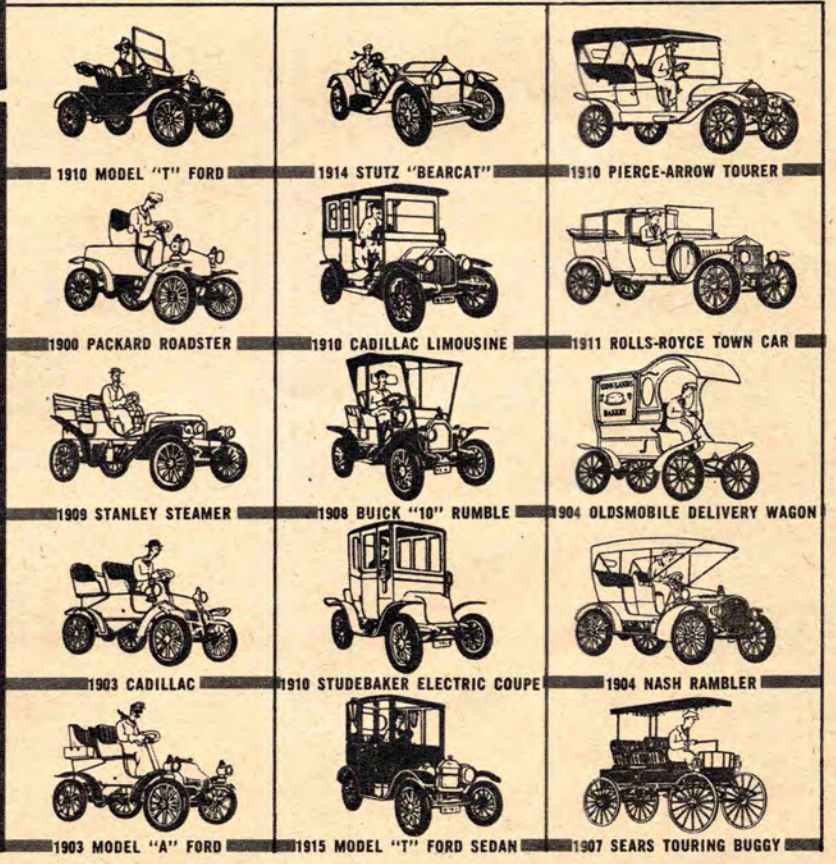


Famous Foreign Cars
by
Revell

Add these "Classics from the Continent" to your collection of **Revell** quick-construction all-plastic scale models. A dramatic duo of European "motors"; they are the first of the new **Revell-line** of foreign cars. Here are proud companions to your

Highway Pioneers

SERIES I .69 | **SERIES II .89** | **SERIES III .89**



Highway Pioneers

How many are *missing* from your collection? Every Revell Highway Pioneer is a "collector's item". These are the scale model cars which have made history among hobbyists from Coast to Coast. All kits are completely authentic and precision-scaled, beautifully detailed. *Available at your favorite hobby, toy or department store.*

REVELL, inc.
4223 OCEAN PARK AVENUE
VENICE, CALIFORNIA

NEW!

PITT'S SPECIAL

LITTLE STINKER

SCOOP! Here's Betty Skelton's championship stunt flyer . . . never before at this low, low price. It's one of the snappiest, most colorful stunt flyers that ever took to the air. The completely prefabricated kit features: carved balsa fuselage, all the colorful decals, formd balsa wing, plastic pilot, Jim Walker's U-Control, etc., etc. — everything cut, formed or shaped for easy assembly. **2.50**

POWER WITH ANY SMALL BORE ENGINE (.020 TO .074)

SCIENTIFIC MODEL AIRPLANE COMPANY, 113 A4 MONROE STREET, NEWARK 5, NEW JERSEY

AMERICAN BOY

STUNT TRAINER

18" WINGSPAN FOR .020 TO .074 ENGINES

Here's our new, popular U-Control trainer . . . the biggest dollar's worth of model airplane in the whole wide world. It's a 100% complete — 100% prefabbed. BEGINNERS . . . Assemble it in "nothing flat," add your engine — and away you go! EXPERTS . . . you'll love this inexpensive profile job for your experimental work — for testing new flying techniques. **1.00**

NORTH AMERICAN

TEXAN AT6

18" WINGSPAN FOR .035 TO .074 ENGINES

An AIR TRAILS "Blue Ribbon" award model. It's our authentic scale replica of the world famous U. S. Air Force AT6 Trainer. The Navy calls it their "SNJ". Modelers everywhere call this exciting control-liner a real "thriller." The completely prefabricated kit includes: Jim Walker's U-Control, carved balsa fuselage, formed wing, cowling, etc. **1.95**

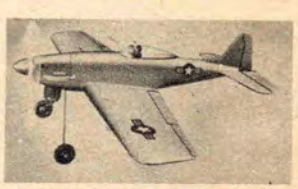
FREE Scientific Catalog . . . Contains all our exciting action models: Airplanes, Speedboats, Race Cars, Etc.

BOEING F4B-4 $2.95
SPAN: 17½" For .020 to .074 Eng. Deluxe U-Control model. 100% complete—100% prefabbed . . . with carved balsa fuselage, metal cowl, rubber wheels, pilot, etc.

LITTLE MERCURY $1.50
SPAN: 18" For .039 to .074 Eng. Carved fuselage model — at this sensational low price. It's completely prefabbed . . . easy to assemble, easy to fly. Jim Walker's U-Control.

CURTISS HAWK $2.95
SPAN: 17½" For .020 to .074 Eng. Deluxe U-Control model of the U.S. Army's famous "Hawk" fighter. 100% complete . . . 100% prefabbed. Contains carved balsa fuselage, etc., etc.

WACO CABIN $1.50
For .020 to .049 Engines
Imagine! This carved fuselage biplane "beauty" for only $1.50. It's semi-scale. Features Jim Walker's U-Control, all prefabricated parts.



LITTLE MUSTANG $1.95
SPAN: 18" For .020 to .074 Eng. Famous escort fighter model. Completely prefabbed. Features carved balsa fuselage, formed balsa wing, etc., etc.

LITTLE DEVIL **$1.50**

SPAN: 18" For .020 to .074 Eng.

An economically priced U-Control model. Easy to build and fun to fly. Prefabbed parts include: carved balsa fuselage & wing, etc.

BUCKEYE JR. **$3.95**

LENGTH: 14" For .020 to .074 Eng.

Full speed ahead for thrills with this "beaut" of a speedboat. Prefabbed model is 100% complete—carved balsa hull, brass fittings.

RIVIERA **$3.50**

For "½ A" Eng., Electric Motors

Authentic Chris-Craft replica with a 12" carved balsa hull and brass metal fittings. All parts finished. Completely prefabbed model.

SEA HAWK **$2.50**

"½ A" Eng., CO_2, or Elec. Motors

Features our exclusive aeronautical fin and rudder design. Prefabbed model has a 12" carved balsa hull, brass metal fittings, etc.

BEL AIR **$2.95**

SPAN: 18" For .039 to .099 Eng.

Deluxe speed, sport & stunt flyer. Features carved balsa fuselage, formed hollow balsa wing, etc., etc. — all satin smooth finished. U-Control.

MONOCOUPE

18" WINGSPAN FOR .035 TO .074 ENGINES

Every beginner will love our scale model of America's favorite private plane. It's so easy to build . . . easy to fly! The prefab kit includes: carved balsa fuselage, formed metal cowling, Jim Walker's U-Control, etc., **1.50**

BOEING P-26A

18" WINGSPAN FOR .020 TO .074 ENGINES

Our popular P-26A . . . in honor of the U.S.A.F.'s first all metal pursuit plane. This highly colorful model brings to life all the beauty of the prototype. It's a terrific control-line stunt or sport flyer. The super-smooth prefab kit contains a carved balsa fuselage, formed metal drag ring, etc., etc. **2.95**

MODELERS:
SEE THESE SCIENTIFIC MODELS AT YOUR FAVORITE HOBBY SHOP

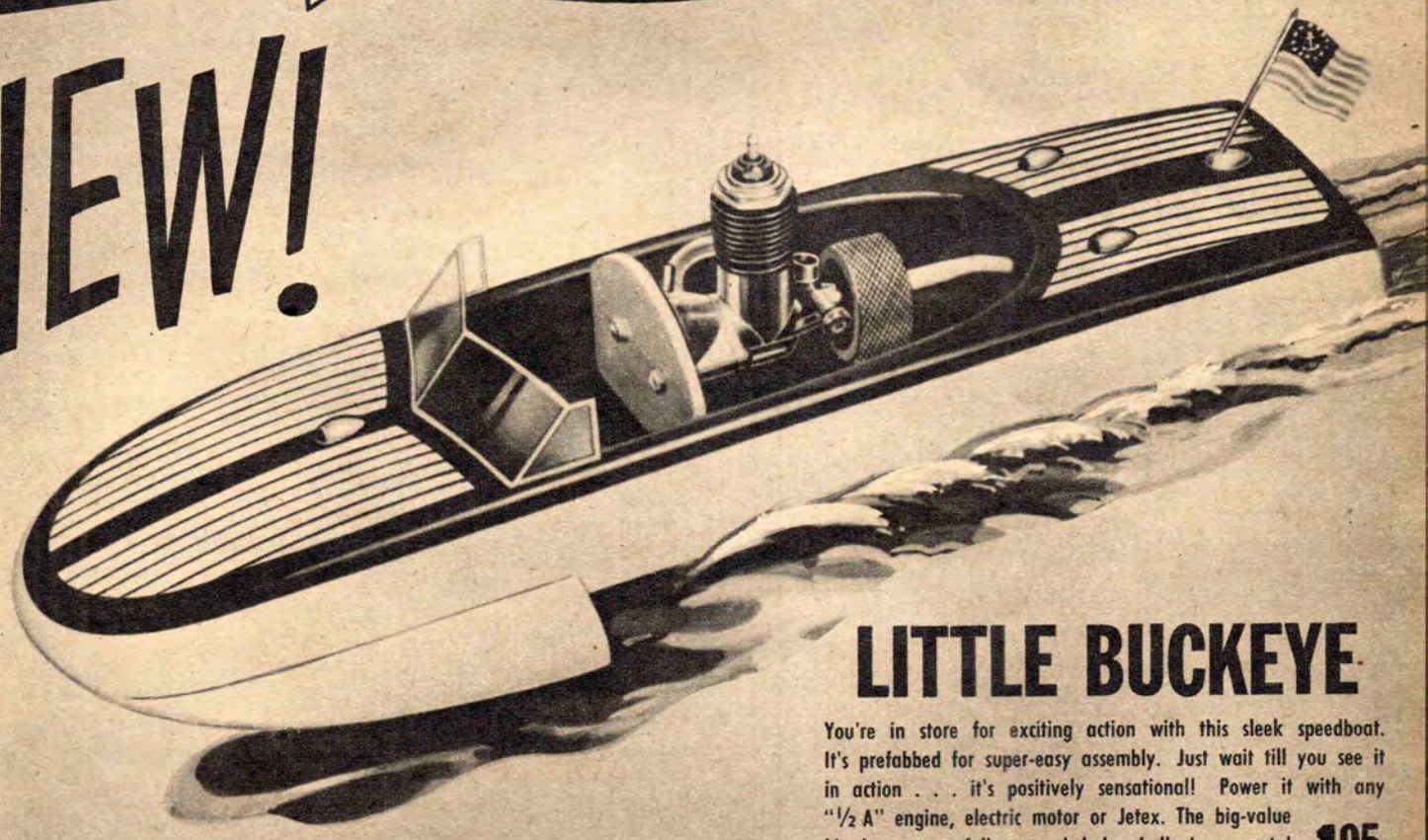
If no dealer is available, add 10¢ (postage & packing) to cost of model

BE SPECIFIC SAY—

SCIENTIFIC

Mr. Stanley Ziemba, Jewett City, Conn., sent us this photo of his Scientific P-26A. Stan says: ". . . It's a beaut and flies like a dream."

NEW!



LITTLE BUCKEYE

You're in store for exciting action with this sleek speedboat. It's prefabbed for super-easy assembly. Just wait till you see it in action . . . it's positively sensational! Power it with any "½ A" engine, electric motor or Jetex. The big-value kit features a fully carved balsa hull, brass metal fittings, etc., etc. **1.95**

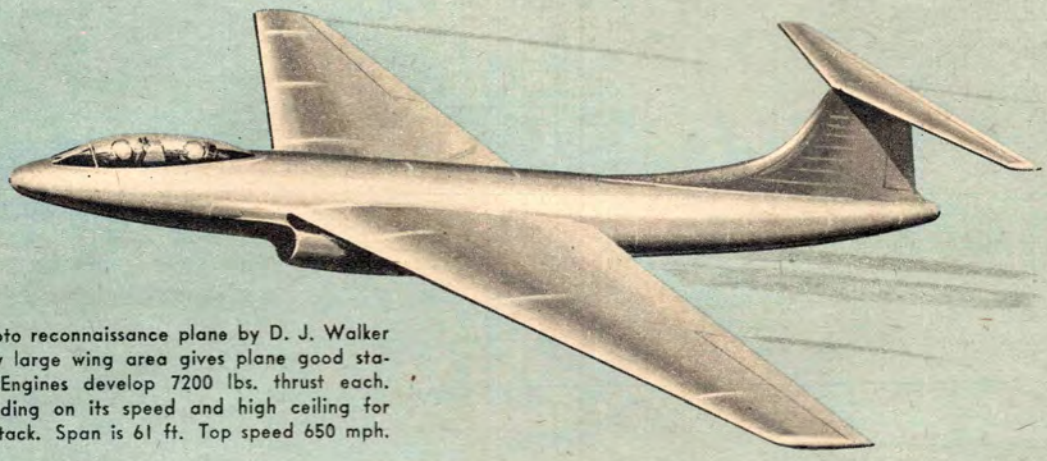
"ATH" AIRMEN OF VISION

AIRCRAFT DESIGN COMPETITION

FIRST
$50
AWARD

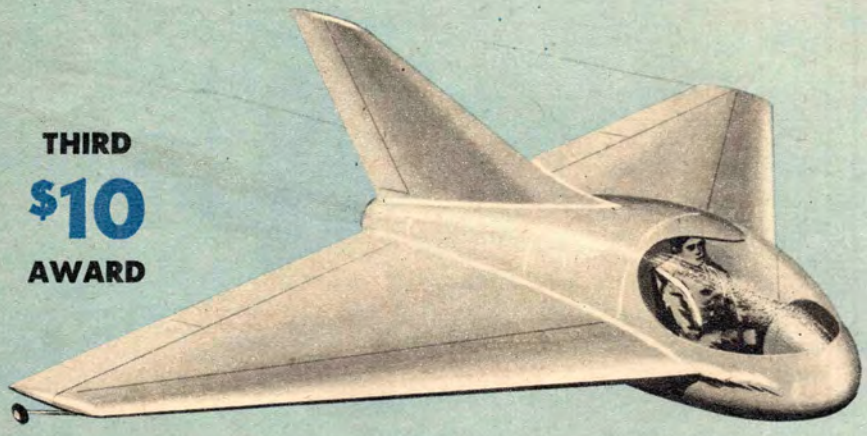
All-weather interceptor design by Gordon E. Zimmerman of Omaha, Neb. Plane is powered by four rockets of 6000 lbs. thrust each disposed around a 10,000 lb. thrust turbojet. In addition a ramjet engine can be fitted below each wing in place of fuel tanks or rocket firing pods. With four rockets and turbojet in operation, the plane has a top speed of 1100 mph. Armament is four cal. .50 machine guns and rockets aimed by radar.

SECOND
$25
AWARD



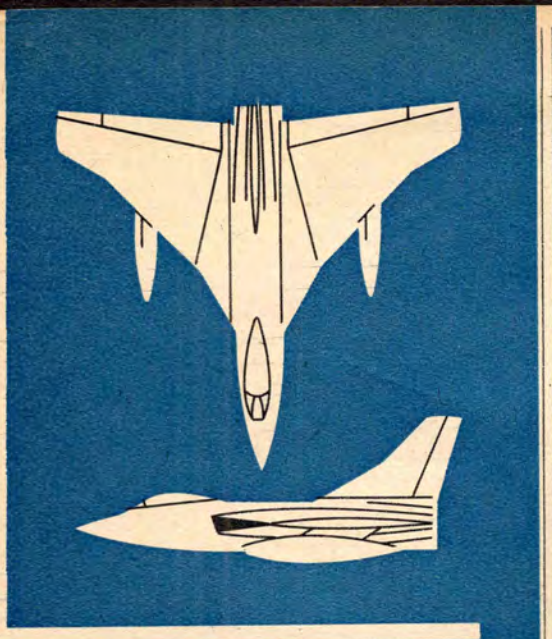
High-altitude, twin-jet photo reconnaissance plane by D. J. Walker of Toronto, Canada. Very large wing area gives plane good stability at high altitude. Engines develop 7200 lbs. thrust each. Plane is unarmed, depending on its speed and high ceiling for protection from enemy attack. Span is 61 ft. Top speed 650 mph.

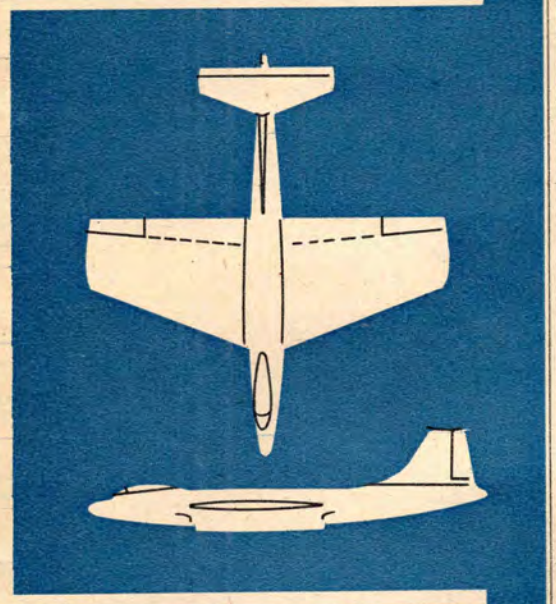
THIRD
$10
AWARD

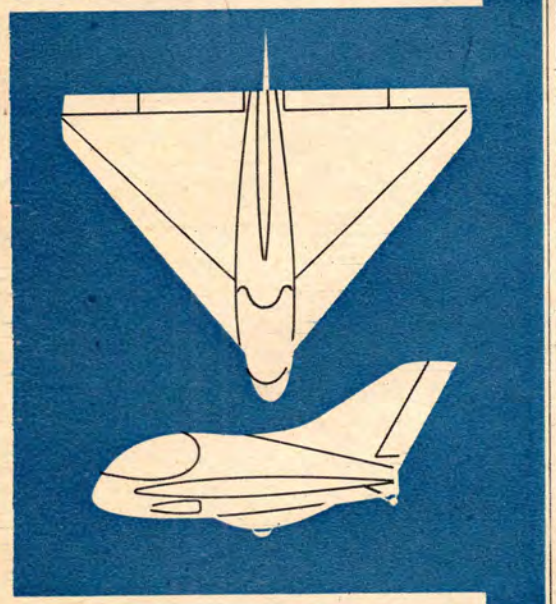


Delta wing, jet sportplane by John D. Dormer of Los Angeles, Calif. The unusual feature is the droop-snoot leading edge interconnected with flaps and nose wheel, so that when the gear is lowered the hinged leading edge droops downward slightly and the flaps are lowered, thus increasing the camber of the wing, considerably raising the lift coefficient and consequently decreasing the plane's stalling speed. The fuselage and vertical fin structure are molded reinforced plastic, the wings of dural structure. Plane's powerplant is a small turbojet rated at 360 lbs. of thrust. Span is 18' 9" weight 1000 lbs.

Rules governing this "aircraft of the future" competition are as follows: Three-view sketches of the envisioned aircraft will be required. These should be not less than 8½ x 11 inches for the entire three views. Give sketches of the complete airplane or space craft in three-quarter front and rear positions. Photos of a model of the proposed design may be included. Information on the powerplant(s), estimated performance, dimensions, and explanations of any unusual features are required. Data as to age, occupation or schooling of the entrant will be welcomed by the editors and judges. The design may be of any type: space craft, commercial, military planes (fighters, bombers, troop transports), planes for the private flyer and sporting or racing airplanes. The entry each month judged the most practical or of the greatest significance will receive an award of $50, $25 will be awarded the second place entry and $10 will be presented for third place. Entries will not be returned and for that reason those participating should keep copies of all material submitted. Mail entries







(along with information and data) to Airmen of Vision, c/o Air Trails HOBBIES for Young Men, 304 E. 45th St., New York 17, N. Y. The editors regret that because of the large number of entries they cannot enter into any correspondence concerning this Airmen of Vision aircraft design competition.

TELECOMMANDER

Reliable, Effective Radio Control

Here is the ultimate in fine radio control equipment. Telecommander offers rugged construction, maximum reliability and superb engineering . . . for splendid performance and true radio control enjoyment.

- Lightweight
- Sturdy
- Low Cost
- Compact
- Reliable
- Guaranteed
- 27.255 Mc.

No. 1061 Complete Transmitter

This outstanding Telecommander achievement offers the utmost in reliability, stability and performance at moderate cost. Uses a crystal-controlled 3A5 twin-triode tube in a time-tested circuit.
Price includes 3A5 tube, crystal, 4' sectional whip antenna. Complete *$27.95*

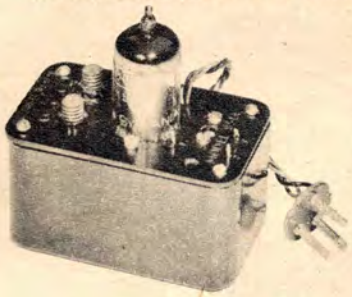
SPECIFICATIONS

Frequency .....27.255 Mc.
"A" Voltage .....1.5 V.
"B" Voltage....120-150 V.
Input .....4.8 watts
Size .....2¼x6x10"
Weight (with batt.)..3 lbs.

No. 1051 TRANSMITTER CHASSIS

Using the exact same circuit as the No. 1061 transmitter shown above, the unit is housed in a sturdy 4x4x2" steel case. It is not a "kit", but a completely wired transmitter unit which is ready for operation after connecting the four external leads to antenna, batteries and keying switch.
Complete including crystal and tube *$18.95*
Accessories available write for information.

No. 951 RECEIVER



A time-proven receiver, the 951 is housed in a strong, lightweight bakelite case. Incorporates a field-tested hard tube circuit in minimum space. Permeability tuning assures positive hairline adjustment. Includes built-in relay. Unit is ready to install and operate. Very low cost.
Price complete with tube *$18.95*

SPECIFICATIONS

Size .....1½x2½x1¼"
Weight (with tube).....2½ oz.
"A" Voltage.....1.5 V
"B" Voltage.....60-90 V

RELAY #5A

The lightest, most sensitive and reliable relay in the model field. Operates on current change of 50 microamps between .5 and 3 milliamps. Solid silver contacts. Size: 1x1¼x⅜". Weight: ½ ounce. Price *$6.50*

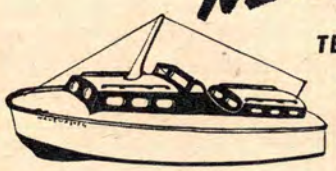
GUARANTEE

All Telecommander radio control units are fully guaranteed for 90 days against defective materials or workmanship.

ESCAPEMENT #202

Light, compact and versatile, designed to meet the needs of every modeller. Rotor is the self-centering type, for fast positive operation. Rotor shaft is accurately lined up through two guides and is mounted in a ball-race thrust bearing to eliminate any binding or drag. Size: 1x¾x½". Wt. ½ ounce. Voltage 3 V. Price *$5.00*

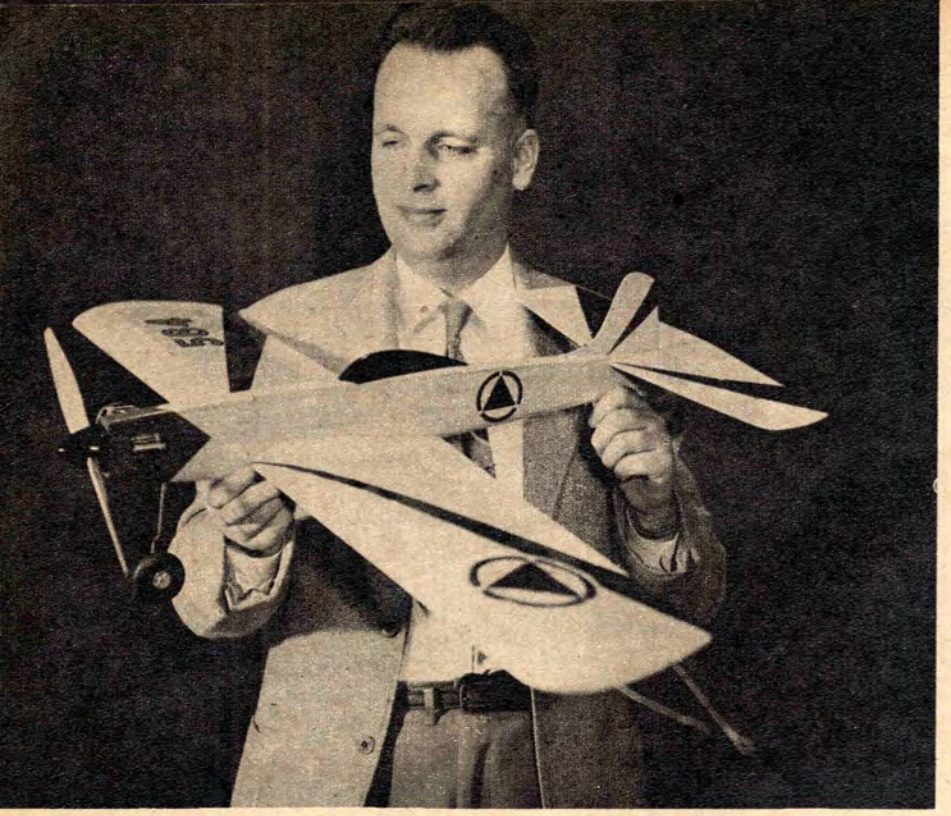
NEW!



TELECOMMANDER WAVEMASTER BOAT KIT

A magnificent model cabin cruiser, designed expressly for radio control. All pre-cut hard wood construction, water-tight hatches, complete instructions. 34" long, 10½" beam. For gas, diesel or electric power. Price complete **$18.95**

AMERICAN TELASCO LTD., *Huntington, N. Y.*

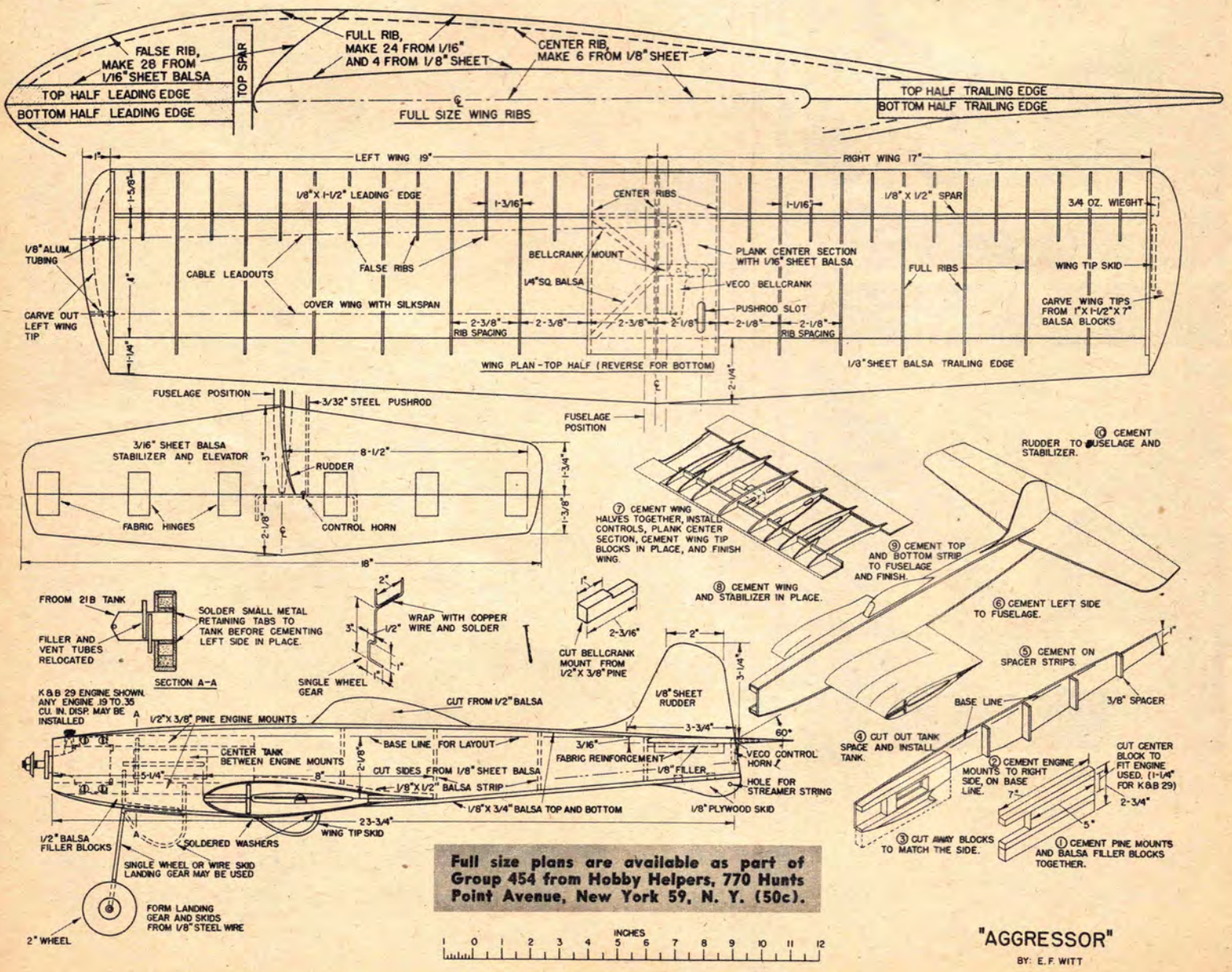


Mr. Witt of Lakeview, Wash., directed International air-model combat competitions

Aggressor Combat Plane

Credit the "Second Division" for this contest-proven flyer

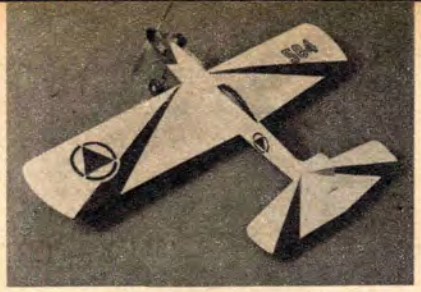
By EARL F. WITT


FALSE RIB, MAKE 28 FROM 1/16" SHEET BALSA
TOP SPAR
FULL RIB, MAKE 24 FROM 1/16" AND 4 FROM 1/8" SHEET
CENTER RIB, MAKE 6 FROM 1/8" SHEET
TOP HALF LEADING EDGE
BOTTOM HALF LEADING EDGE
FULL SIZE WING RIBS
TOP HALF TRAILING EDGE
BOTTOM HALF TRAILING EDGE
LEFT WING 19"
RIGHT WING 17"
1/8" X 1-1/2" LEADING EDGE
CENTER RIBS
1/8" X 1/2" SPAR
3/4 OZ. WIEGHT
1/8" ALUM. TUBING
CABLE LEADOUTS
FALSE RIBS
BELLCRANK MOUNT
1/4" SQ. BALSA
PLANK CENTER SECTION WITH 1/16" SHEET BALSA
VECO BELLCRANK
PUSHROD SLOT
FULL RIBS
WING TIP SKID
CARVE OUT LEFT WING TIP
COVER WING WITH SILKSPAN
2-3/8" RIB SPACING
2-1/8" RIB SPACING
CARVE WING TIPS FROM 1" X 1-1/2" X 7" BALSA BLOCKS
WING PLAN - TOP HALF (REVERSE FOR BOTTOM)
1/8" SHEET BALSA TRAILING EDGE
FUSELAGE POSITION
3/32" STEEL PUSHROD
3/16" SHEET BALSA STABILIZER AND ELEVATOR
RUDDER
FABRIC HINGES
CONTROL HORN
7 CEMENT WING HALVES TOGETHER, INSTALL CONTROLS, PLANK CENTER SECTION, CEMENT WING TIP BLOCKS IN PLACE, AND FINISH WING.
8 CEMENT WING AND STABILIZER IN PLACE.
9 CEMENT TOP AND BOTTOM STRIP TO FUSELAGE AND FINISH.
6 CEMENT LEFT SIDE TO FUSELAGE.
5 CEMENT ON SPACER STRIPS.
BASE LINE
3/8" SPACER
4 CUT OUT TANK SPACE AND INSTALL TANK.
2 CEMENT ENGINE MOUNTS TO RIGHT SIDE, ON BASE LINE.
CUT CENTER BLOCK TO FIT ENGINE USED. (1-1/4" FOR K&B 29)
3 CUT AWAY BLOCKS TO MATCH THE SIDE.
1 CEMENT PINE MOUNTS AND BALSA FILLER BLOCKS TOGETHER.
FROOM 21B TANK
SOLDER SMALL METAL RETAINING TABS TO TANK BEFORE CEMENTING LEFT SIDE IN PLACE.
FILLER AND VENT TUBES RELOCATED
SECTION A-A
WRAP WITH COPPER WIRE AND SOLDER
SINGLE WHEEL GEAR
CUT BELLCRANK MOUNT FROM 1/2" X 3/8" PINE
K&B 29 ENGINE SHOWN. ANY ENGINE .19 TO .35 CU. IN. DISP. MAY BE INSTALLED
1/2" X 3/8" PINE ENGINE MOUNTS
CUT FROM 1/2" BALSA
1/8" SHEET RUDDER
CENTER TANK BETWEEN ENGINE MOUNTS
BASE LINE FOR LAYOUT
3/16" FABRIC REINFORCEMENT
VECO CONTROL HORN
CUT SIDES FROM 1/8" SHEET BALSA
1/8" FILLER
HOLE FOR STREAMER STRING
1/8" X 1/2" BALSA STRIP
1/8" X 3/4" BALSA TOP AND BOTTOM
1/8" PLYWOOD SKID
23-3/4" WING TIP SKID
1/2" BALSA FILLER BLOCKS
SOLDERED WASHERS
SINGLE WHEEL OR WIRE SKID LANDING GEAR MAY BE USED
FORM LANDING GEAR AND SKIDS FROM 1/8" STEEL WIRE
2" WHEEL
INCHES

Full size plans are available as part of Group 454 from Hobby Helpers, 770 Hunts Point Avenue, New York 59, N. Y. (50c).

"AGGRESSOR"
BY: E. F. WITT

Paper and wood covered model gets four coats of clear fuel-proof dope for strength.



Three Korean war vets participated in the design of this rugged, expendable aircraft.

■ Combat "dog-fight" contest flying has become a number one attraction in modelplane events all over the country. With modelers taking the event seriously, the one who flies just any old wreck he considers expendable, hoping to score on a lucky pass, no longer stands much chance of winning. If it is your ambition to excel in "aerial mayhem," as Jim Saftig, former International air model stunt champ, so aptly calls it, the *Aggressor* and you should be great friends.

This model has developed from five years of combat. In 1948 the 2nd Division model builders congregating at the Fort Lewis Craft Shops started making passes at a towed streamer as a novelty. In 1949, the group headed by Sgt. William Ritchie, the only known modeler to send for model supplies from the Yalu River; Sgt. Robert Moorehead, who of necessity, "evolved" the hobby of rendering communication equipment unusable and walking back through Chinese lines; and Pvt. Anthony Ludwig, who has just returned from two years as a guest of the North Koreans; these three, along with the author, developed a simple, full fuselage, rugged team ship, well adapted to combat as a friendly flying exhibition.

With the advent of published rules, combat became more than a club activity and we found that a combat model is a type of its own. The *Aggressor* is an end product of this experience.

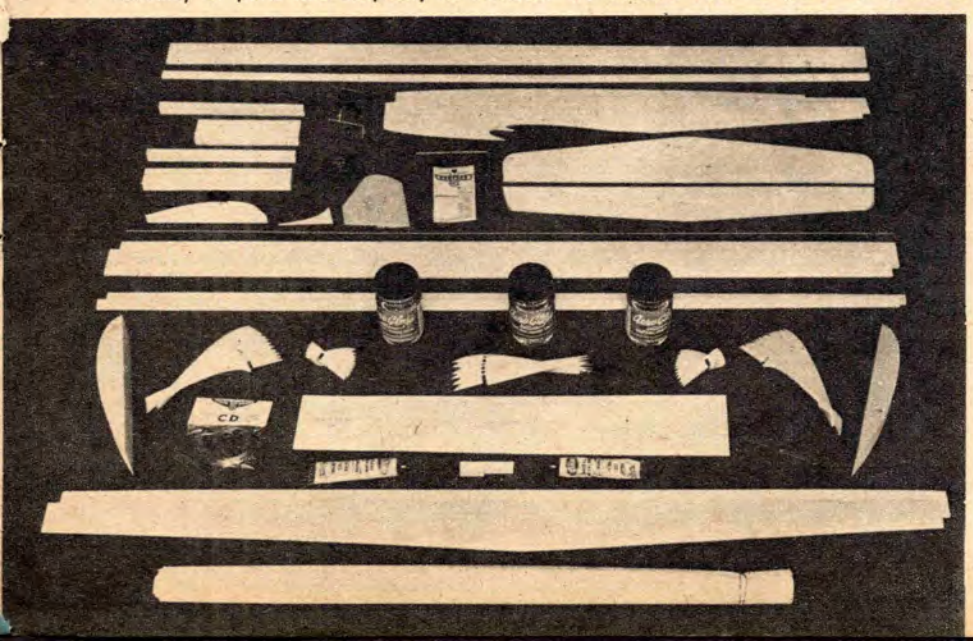
Unusually strong models were heavy and had to be large to get the maneuverability required and as a result were slow. Fuselage stunt models that were suitable broke up too easily, were expensive, and necessitated too much building time for this type of flying. Slab models and flying wings became the standard combat models and the ones we set out to beat.

The *Aggressor* is built light, therefore it is smaller and faster than a conventional slab job without sacrificing maneuverability. The major structures are deep and laminated, minimizing the chance of having a member cut or break all the way through. The model has a large stabilizer moment arm, which makes it a smooth performer, thus not requiring the flyer's constant attention on his own craft.

This design makes use of standard materials with a minimum of different parts to be cut out, and uses simple assembly procedures. This is especially true in the wing where a symmetrical airfoil wing with a 1" by 1½" "T" spar can be pinned down and built on a flat surface with perfect alignment as easily as the old Clark Y wings.

Assembly instructions are on the full size plans.

Economy of parts and simplicity of structure are obvious when all parts are grouped.



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Always the Best Prices

THIS HAS BEEN OUR POLICY DURING MANY YEARS OF SUPPLYING ELECTRONIC MATERIALS TO MORE THAN 5000 SATISFIED CUSTOMERS WHO WILL VOUCH FOR THIS RECORD. DEALERS ALL OVER THE WORLD REQUEST TO BECOME AUTHORIZED ESSCO DEALERS.
SUCH A RECORD IS ONLY OBTAINED BY A POLICY OF ETHICAL BUSINESS PRACTICE. BAIT ADVERTISING AND NICKEL AND DIME PRICE CUTTING DOES NOT BUILD GOODWILL SUCH AS WE ENJOY.

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A COMPLETE TWO TUBE LORENZ CIRCUIT RECEIVER AT A KIT PRICE. NO FUSS—NO BOTHER—JUST INSTALL IT IN YOUR MODEL AND TURN ON THE SWITCH. RELIABLE, SENSITIVE LONG RANGE OPERATION, UNBEATABLE VALUE—COMPLETE—READY TO GO WITH TUBES AND SENSITIVE SIGMA RELAY—DUAL OR SINGLE UNIT ASSEMBLY AS YOU PREFER..... $15.95

THE ESSCO IMPROVED MINI-MAC HARD TUBER RECEIVER. The use of the ESSCO Special MPC-1 Subminiature Tube allows the following operation: 2½ ma. idling current using 45 Volt B Battery and 5000 ohm relay. 1.6 ma. idling current using 30 Volt B Battery. Set idles at 2.2 ma. with 45 Volt B Battery and Sigma 4F 8000 ohm relay. The current drops to 0.35 ma. with signal in the above operations.
The ESSCO Mini-Mac Parts Pkg. with either CK-526 or ESSCO MPC-1 Tube, wound coils, drilled base 6.95
With Sigma 4F Relay and larger drilled base.. 11.95
ASSEMBLED AND TESTED, PACKAGED IN PLASTIC CASE 16.95
P.S. If we seem unduly enthused with the ESSCO Mini-Mac. It is because its unequalled operation has been proven by hundreds of satisfied modelers who have built the ESSCO Kit.

THE ORIGINAL ESSCO MINI-QUENCH COIL. Top performance in this circuit is only obtained by the use of this new, lightweight coil. New type of wire insulation easy to wire into circuit. Only available from ESSCO or ESSCO dealers, special..... 1.65

ANOTHER ESSCO FIRST

Coming soon the NEW ESSCO IV. A super sensitive lightweight receiver. Uses 4 subminiature tubes with only 80 ma. total filament drain, 35 milliwatt power output stage ideal for tone modulated Reed units. Smaller and lighter than most single tube sets. Complete receiver—not a kit..... $29.95

PROPORTIONAL CONTROL UNIT

ESSCO PRC, the only true 100% proportional control unit. Completely housed in neat handy size molded bakelite case with L-R lever control stick. Will work with any transmitter. For use with any type of actuator. Only available from ESSCO or ESSCO dealers. Unbeatable value $19.95
ADAMS ACTUATOR, lightweight alnico magnet type control actuator..... 6.45
SPECIAL PACKAGE DEAL. ESSCO PRC CONTROL UNIT AND ADAMS ACTUATOR..... 24.95
ESSCO VMA, THE NEW 1954 MODEL. A NEW ECONOMICAL PRECISION METER TEST SET, 5 ranges, 0-5 & 0-50 ma., 0-5, 0-50 and 0-100 volts. Ma. ranges connected to attached phone plug for direct reading at transmitter or receiver. COMPLETED UNIT with test leads, not a kit..... 8.95

GOOD TUBE BUYS

RK-61	$3.30	XFG-1	$3.25	3D6	.95
3A5	1.45	3A4	1.00	1S4	.95
3S4	.95	3V4	1.15	1U5	.95
1S5	.95	1V5	1.95	CK-526	1.95
CK-722 Transister	$4.50;	ESSCO MPC-1			1.95

The Tops in Transmitters

ESSCO RCX HP. A new compact HIPOWER 2 tube 5 watt transmitter housed in metal cabinet with handle. Uses our NEW 2 VOLT VIBRATOR POWER SUPPLY. COMPLETE SET WITH TUBES, CRYSTAL, METER, 9¼ ft. WHIP ANTENNA and heavy duty 2 volt cell with built-in battery charger. A COMPLETED ITEM—NOT A KIT..... $37.95
Can be supplied for 6 volt operation, same price 37.95
ESSCO RCX JR. in kit form. A new compact HIPOWER 4 watt transmitter. Complete set of highest grade components, tube, Petersen 29A crystal, ESSCO 9½ ft. sectional whip antenna with base mount, handsome metal cabinet with carrying handle, assembled keying cable. Nothing else to buy. THE BIGGEST BARGAIN IN R/C TODAY, special..... 12.45
"ESSCO FIVER"—A two tube full 5 watt completely packaged RF unit. Assembled & wired chassis. 3x4x1¼ in. Ready for installation in your own cabinet. Why knock yourself out building your own? For less than cost of kit of parts. Complete with tubes. Petersen 29A crystal & PR keying switch..... 15.95
ESSCO SECTIONAL WHIP ANTENNA for this unit or any other transmitter, equipped with base, mount 2.95
When ordered with ESSCO FIVER..... 1.95

FREE BONUS ITEM WITH EVERY ORDER, TWENTY-FOUR PAGE MANUAL ON RADIO CONTROL

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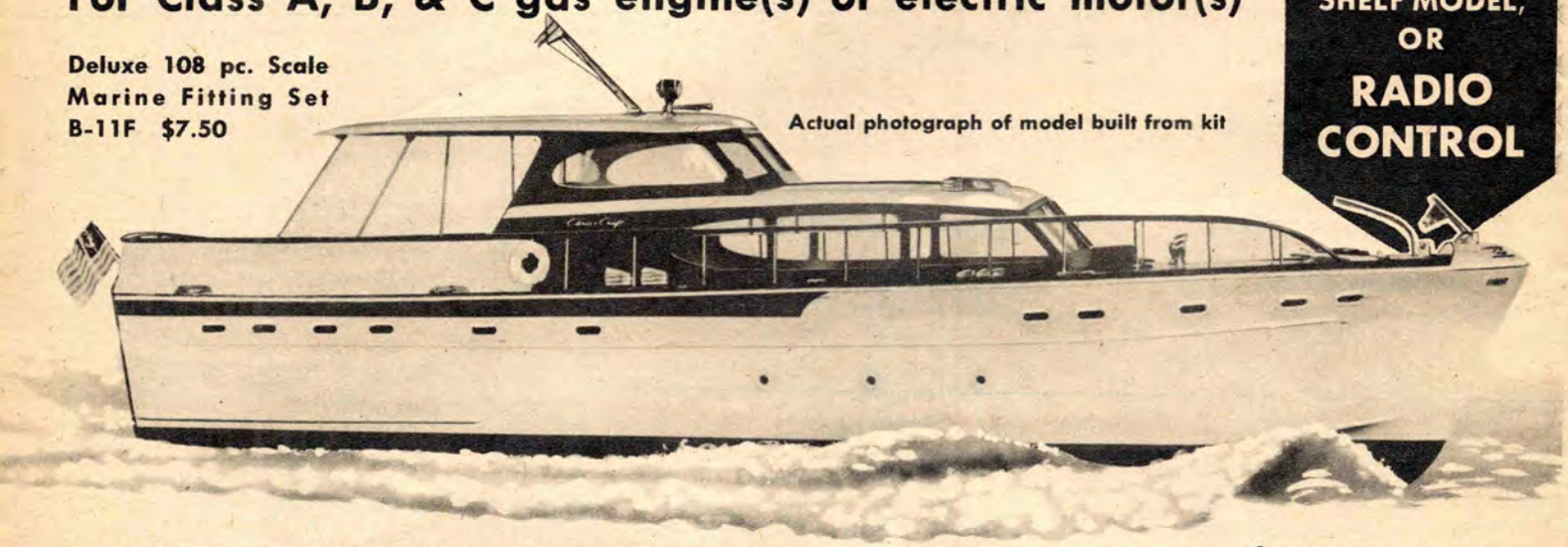
LUXURIOUS CHRIS-CRAFT 63' MOTOR YACHT

For Class A, B, & C gas engine(s) or electric motor(s)

FOR POWER OPERATION, SHELF MODEL, OR **RADIO CONTROL**

Deluxe 108 pc. Scale Marine Fitting Set B-11F $7.50



Actual photograph of model built from kit

Entire cabin and rear deck instantly removable. Internotched and self-aligning construction. Die-cut African mahogany parts exactly as used on full-sized craft. Die-cut and embossed Gaboon mahogany simulated teak decks. Die-cut balsa frame members, etc. Die-cut plywood fire wall and motor mount bulkheads. Hardwood motor mount. Authentic decals. Reed molding. Wire. Yachting Ensign. Plastic for cabin windows. Venetian blind material. Complete set of port holes. Aluminum deck hatches. Material for canvas skirt. Marine power hardware including shaft, stuffing box, NYLON PROPELLER, brass rudder, nuts, bolts, etc. etc.

$18.95

Kit B-11M
Length 40" Beam 10¼"

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Howard Pete	C-2	5.95
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Polish Fighter	C-5	5.95
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Ring Master	S-1	2.95
F-51 Mustang	S-2	2.95
Yak-9	S-3	2.95
Space Master, Jr.	S-4	2.25
R. C. Piper Tri-Pacer	FS-1	10.95

POWER BOATS	KIT	PRICE
Richardson 27' Cruiser	B-1	$5.95
Higgins 17' Speedster	B-2	4.95
Chris-Craft 47' Buccaneer	B-3	7.95
Century Resorter '20'	B-4	3.25
Century Sea Maid '20'	B-5	2.95
Chris-Craft 32' Cruiser	B-6M	9.95
Deluxe 34-pc. scale marine fitting set for Kit B-6M	B-6F	3.50
Chris-Craft 50' Catalina	B-7M	11.95
Deluxe 66-pc. scale marine fitting set for Kit B-7M	B-7F	4.95
Century Sea Maid '20'	B-8M	7.95
Deluxe 35-pc. scale marine fitting set for Kit B-8M	B-8F	3.95
Higgins 26' Express Cruiser	B-9	3.95
Harco '40' Deluxe Cabin Cruiser	B-10M	10.95
Deluxe 64-pc. scale marine fitting set for Kit B-10M	B-10F	4.50

MARINE DRIVES	PRICE
½ A (⅛" dia.) Gas Marine Drive	$2.95
A (⅜" dia.) Gas Marine Drive	3.95
BC (¼" dia.) Gas Marine Drive	3.95
Electric Marine Drive	2.25

Marine Fittings Also Available **Individually.** *Ask Your Dealer.*

College Dollars

(*Continued from page 41*)

Labor has had two scholarships of $250 each for high school seniors of that state who receive highest grades in a competitive examination on selected though regularly taught subjects that bear on labor problems.

Various denominations of churches have monetary grants for higher learning. Membership is a requisite. The Methodist Episcopal has around 500 scholarships in value up to $400 per year at accredited Methodist colleges. The Presbyterian Church grants scholarships in colleges of the Presbyterian Church including some good for four years and worth $2000.

Catholic Scholarships for Negroes, Inc. of Boston has college education awards for Negro students—no requirements as to residence, the amount granted is individually determined, and the course may be in such diverse fields as music and law. Applicant must be recommended by teachers or pastor.

We've referred to "special" types of scholarships. In academic literature on the subject you'll come across two other main classifications into which scholarships fall—the "general" kind, meaning those that may be applied for by any student in the country, without respect to religion and the like and the kind of course he must take, and the "regional" scholarship. The latter requires that the student come from a certain section—which may be an entire geographical region, as for instance the south, or from a certain county, town or high school.

By all means look around in your own

IT!

2 GREAT NEW AUTHENTIC SCALE MODELS—COMPLETELY PREFABBED!

Yours—to build and command—the fabulous Queen of the Fleet, the luxurious Chris-Craft 63' Motor Yacht—and the world-famous U.S. Navy carrier fighter, the incomparable CORSAIR! Both of these outstanding additions to the Sterling line are completely prefabbed, authentic in every detail, and painstakingly engineered for easy construction! Giant, step-by-step, easy-to-read drawings and instructions are included. Both kits at your dealer's now. Get yours today!

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Kit C-9
Span 36"
Length 27¾"

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For Class B & C Engines

Actual photograph of model built from kit

SCALE CONTROL LINE MODEL!

Die-cut balsa ribs, bulkheads, tail surfaces, deck, etc. Die-cut plywood parts. Leading edges completely gull-shaped, tapered and notched. Shaped and notched trailing edges. Authentic decal insignia. Formed wire landing gear. Gas model silkspan. Complete hardware kit. Sheet balsa covered fuselage. FORMED PLASTIC CANOPY. ALUMINUM COWLING.

Sterling models

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PHILADELPHIA 22, PENNA.

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backyard to learn of all regional possibilities. There are at least 80 community trusts that have funds for scholarships for those living in areas represented. The Chicago Community Trust has two such scholarship funds for high school graduates in Cook County. Any high school youth living in Nassau and Suffolk Counties in New York may be eligible for the four-year engineering scholarships awarded annually by Grumman Aircraft. (You must be interested in aviation and apply your training to aviation problems.) The Cape Cod Association has been making grants up to $200 for students of Cape Cod who wish to continue their education in college.

A number of newspapers in various cities have scholarship provisions for their boy carriers. The fact that you have engaged in this honorable work for a definite period of time may in itself be the key that opens the outer doors of your chances for college training. Harvard has scholarship aid related to this. In California a trust fund offers scholarships worth $1500 per year (renewable each year and possibly extending through graduate work) at Stanford U. to newspaperboy high school graduates, selection being made from among the names submitted by individual papers in the state.

"To help our own" is often the worthy motive behind the setting up of funds for scholarships. It is well exemplified by the grant in liberal arts or engineering at Tufts College in Massachusetts for young people whose parents work in the fishing business; it was donated by the former head of a fisheries concern.

(*Continued on page* 97)

MAIL COUPON TODAY

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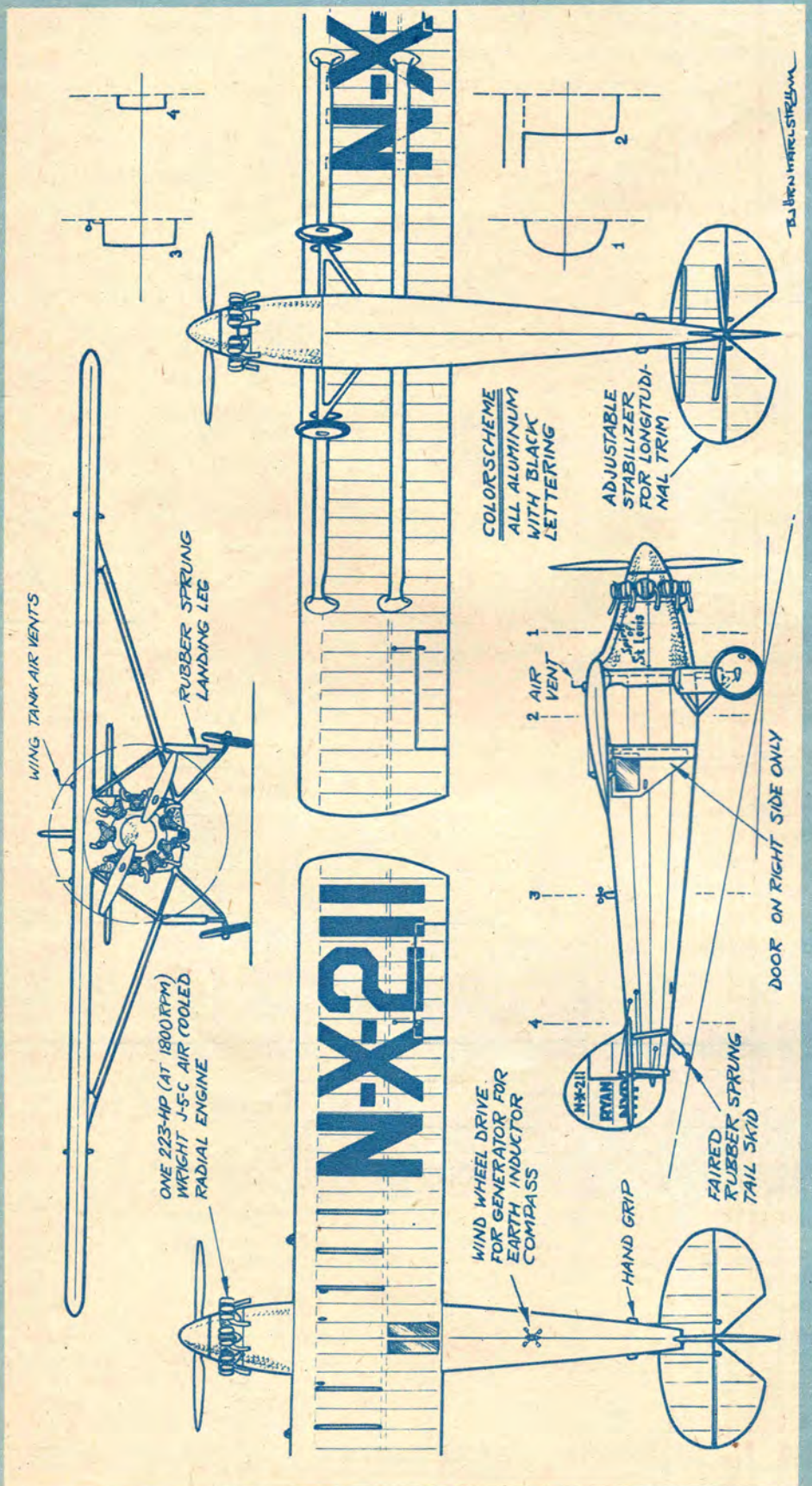
Lindbergh's N-Y-P Ryan Monoplane

This is plane in which Charles A. Lindbergh made first solo crossing of the Atlantic, New York to Paris, May 20-21, 1927.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N-X-211
COLORSCHEME ALL ALUMINUM WITH BLACK LETTERING
ADJUSTABLE STABILIZER FOR LONGITUDINAL TRIM
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WING TANK AIR VENTS
ONE 223-HP (AT 1800 RPM) WRIGHT J-5C AIR COOLED RADIAL ENGINE
WIND WHEEL DRIVE FOR GENERATOR FOR EARTH INDUCTOR COMPASS
HAND GRIP
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NEW

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Amazingly Realistic!
Beauty Beyond Comparison

Has realistic dummy Offenhauser engine, exhaust pipes, removable hood, brake, pump, helmeted driver and detailed instrument panel. Parts press-fit and snap-fit together QUICK.

Complete Kit **98¢**

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Midget Race Car

It's a true scale Midget Racer just like the real ones used in indoor and outdoor racing. More authentic detail than you would expect on a model at this price. All parts are molded acetate plastic. You can assemble this model with Monogram's Mono-Glue in a matter of minutes. For painting, use Mono-Dope. Colors — Black, Silver and your favorite body color.

Superkit MiG-15

23 Molded Plastic Parts

Finished Balsa Fuselage, Wings, Tail

This is an authentic Russian MiG based on the recently captured "$100,000" real aircraft. You've been waiting for this nifty model for a long time. It's real fun putting together the 23 plastic parts and 6 finished balsa parts with Monogram's Mono-Glue. Finish the model with Mono-Dope. Colors — Silver, Red or Black.

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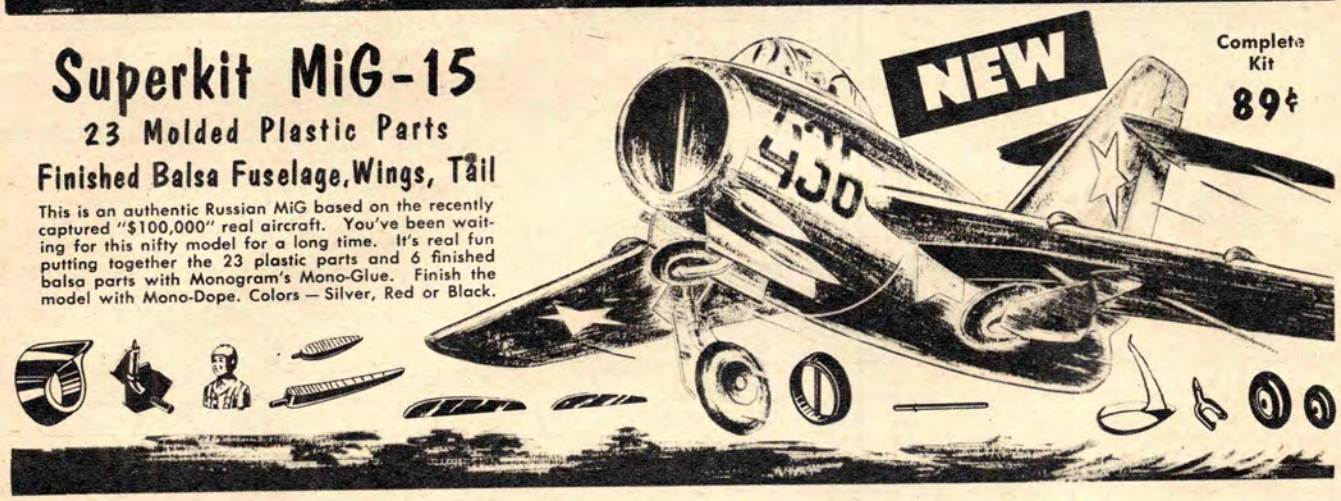

NEW

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Superkit Sabre Jet

18 Molded Plastic Parts

Finished Balsa Fuselage, Wings, Tail

Here it is, fellows! The F-86 Sabre Jet — the kit so many of you asked for — in the popular Superkit series. 18 molded plastic and 6 finished balsa parts go together in a jiffy and give you the last word in detail and realism. Use Monogram's fine Mono-Glue for assembly. Finish with Mono-Dope. Colors — Red and Black and Silver.

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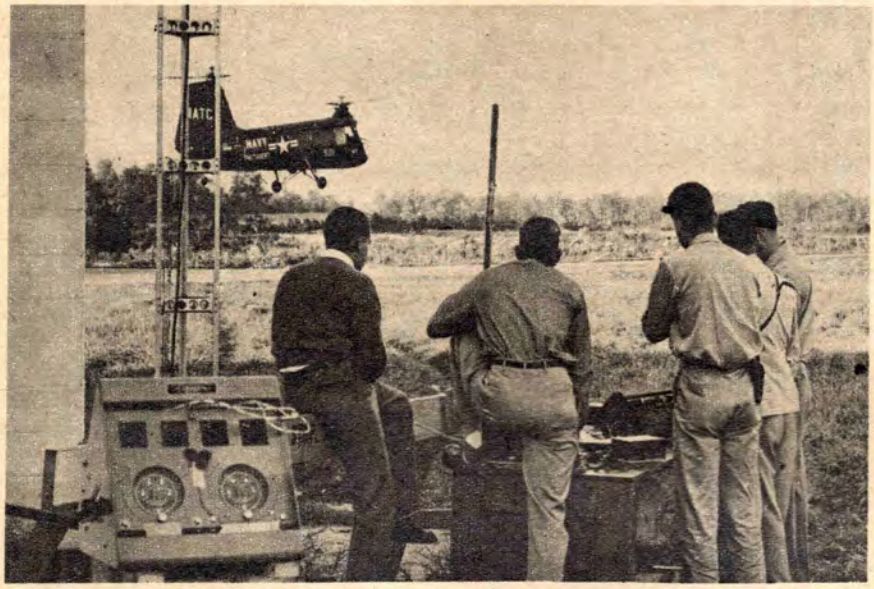
News and Comment on Radio Control Planes . . . Boats . . . Vehicles . . . by Howard G. McEntee

Everything

■ Sounds like the West Coast has gone boat-crazy! There is such a tremendous burst of activity in R/C boats that R. L. Brown is talking up possibility of a "Marine Nationals." Brownie sent rules for first boat contest conducted by the R/C Buzzards. The boats will run an obstacle course around poles; scoring is on whether entry covers course, and *how* the run is made. If the operator makes extra circles or maneuvers to get lined up for the poles, he loses Performance points, even though he makes the maximum Obstacle points. A time limit of 6 minutes per voyage is set up; each contestant gets two chances at the course; highest point run is used in scoring. Course is laid out so it gets progressively harder as you go along; there are 23 poles which you have to go around, through and between. Some of them are only 2′ apart. You lose all points for a particular pole if you touch it. You also get "docked" points for going outside the contest area, which is 180′ x 120′. You can obtain more data from Brownie at 1743 S. Magnolia, Ontario, Calif.

Automatic Method for Helicopter Control



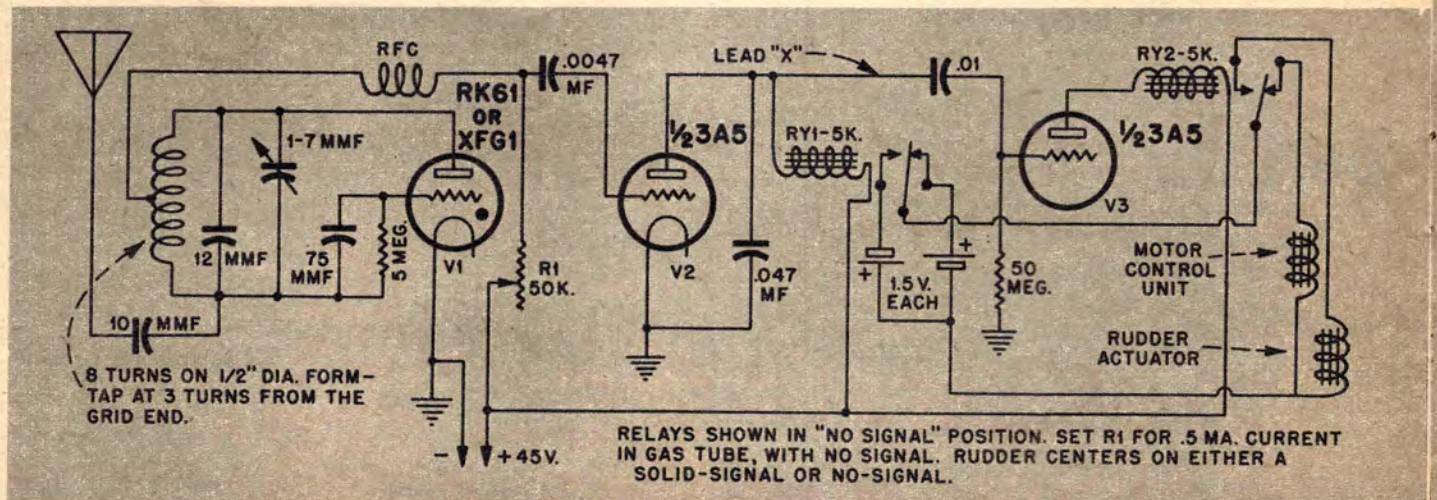
Piasecki HUP-2 utilizes closed-link system consisting of Raydist (continuous wave radio location system) and an autopilot. Copter took off on "automatic position," then ascended to 1100 feet; descent and pinpoint landing were then made. Small xmtr is in copter, signals from 2 Raydist relay stations are compared in one phasemeter for longitudinal movements; 2 more show traverse movement. Transducer was low-torque pot. attached to phasemeters.

Members of the DC/RC group (Washington, D. C. area) will set up a series of "Sport Flying Awards," to give those who are not much interested in traveling around to contests something real to do, besides just aimlessly milling around in the air. The awards come in five grades, starting with the "Drone" and ending (after looking over the requirements, maybe this "ending" could be considered literally!) with "Master." Different colored stars are awarded for the various classes, the stars being attached to the plane. The Drone star calls for an R/C flight demonstrating both right and left turns, duration flight of one minute with landing within 500′, and spot landing within 200′. The Master star calls for such items as spot landing within 5′, three consecutive spots within 25′, prototype ROG, family spot landing within 50′ (made by any family member other than the plane owner, or by a non-member of the club), and any one of such stunts as outside loop under power or in glide, vertical eight, 10 sec. inverted flight, or a duration flight of 40 minutes with landing no more than 200′ away. Oh brother. . . . ! All accomplishments must be certified by two club members.

Ray Morgan (Patterson, Calif.) says the Modesto Aerial Robots were first to sponsor a two-class R/C meet. They made the split by channels—one class was for single RF or audio channel systems (you can work as many controls as you wish). The other was for multi-channel ship. When the rules were explained, many of the multi boys disconnected their elevators, engine controls or both, so they could fly in the "single channel" class.

A nice letter reached us from Rod MacAdam (Potter, Neb.) who says

From Trainer to Miller to Hamblen . . . A Fail-Safe System



Under Control

he is a lone wolf in the area, and would like company. He is a ham—W0DGN, and active on 160 and 75 meters.

Forrest Cole (740 Kennesaw Way, Smyrna, Ga.) claims the R/C gang is growing every week down his way. Latest convert is Bob Elliott Jr. (see page 47); Bob has been flying a Beam, but since he saw the beautiful trophy given for R/C Speed at the last Southeastern Meet, he intends to have a try for it this summer. Forrest has made a couple of Simple-Single receivers and was amazed at how well they operate. We hope he will try the Mini-Mac, which we feel is even better. He reports that the Thomaston, Ga., R/C gang has been getting fine results from the S-S.

Red Costlow (Billett Hobbycraft Co., 2110 Nicollet Ave., Minneapolis 4, Minn.) is another modeler who obtained his Ham Novice license expressly for R/C work, but has had a lot of fun working on the Ham bands; his call is WN0QQM and he is on 40 M. CW. He reports that despite the cold weather, weekend flying sessions are held regularly. Dick Brundige (W0ECJ) has a triple-channel setup, with the three transmitters and receivers all working on the 6 meter band. He can operate all three at once, if he wants; rudder, elevator and motor control are all separate. Rudder and elevator are worked by relay-escapements, while the Spitfire .65 engine has a motor servo linked to the spark timer arm; latter gives any speed from idle to wide open. Don Block flies a hot little swept-wing ship, with Thermal Hopper power, which can do four consecutive rolls any time desired.

We show here a circuit sent us by John Hamblen (10302 Calumet Dr., Silver Spring, Md.), who says it has been flown extensively by Lee Miller; the RF section is a normal gas tube circuit, which feeds half of a 3A5, in the accepted fashion of two tube receivers. The second half of the 3A5 is utilized for a fail-safe arrangement on the proportional control system. In normal use RY1 is always flapping back and forth, to control the rudder actuator (in this case a spring-loaded Mighty Midget motor). As long as pulses are received, V3 remains cut off, and RY2 is in the position shown.

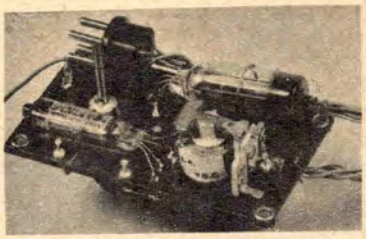
Should a transmitter failure occur or other situation arise whereby pulses cease, RY2 operates, opening the rudder circuit—and centering the rudder—and at the same time hooking in the motor control unit, to cut the engine, or slow it down. A button at the transmitter is used to cut the signal on purpose, so that the motor speed may be changed at

(*Continued on page* 112)

NEW positive action at greater distance

DELTRON

RECEIVER



Here's an entirely new circuit to give you safe control, at greater distances on weak signal. Rugged built for long life.

LESS THAN 2 OZ. Fully assembled unit including tubes, relay and connecting plug is under 2 oz.

LICENSE-FREE BAND (27.255 mc) for operation anywhere! Economical! "B" battery drain on detector tube is .5 mil "signal off" and .1 mil "signal on." "B" battery drain on relay control tube (triggered by the detector tube) is .0 mil "signal off" and 2.2 mils "signal on" assuring positive relay action. "A" battery drain is only 70 mils.

EASY TO INSTALL, ADJUST with one simple tuning.

Complete with tubes, relay and plug, **$24.95**

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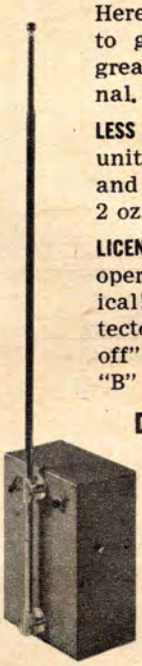

Lightweight, hand-held unit is only 3"x5"x7" has telescopic antenna. 3-watt transmitter gives powerful long-range signal with maximum battery life. Rugged built for dependability.

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F-80 Shooting Star	2.75	MIG-15	2.75

FW-190 Focke Wulf	$2.75	P-51 Mustang	$2.75	P-47 Thunderbolt	$2.95
P-40 Warhawk	2.75	F6F Hellcat	2.75	P-38 Lightning	3.50
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		ME-109 Messerschmitt	2.75		

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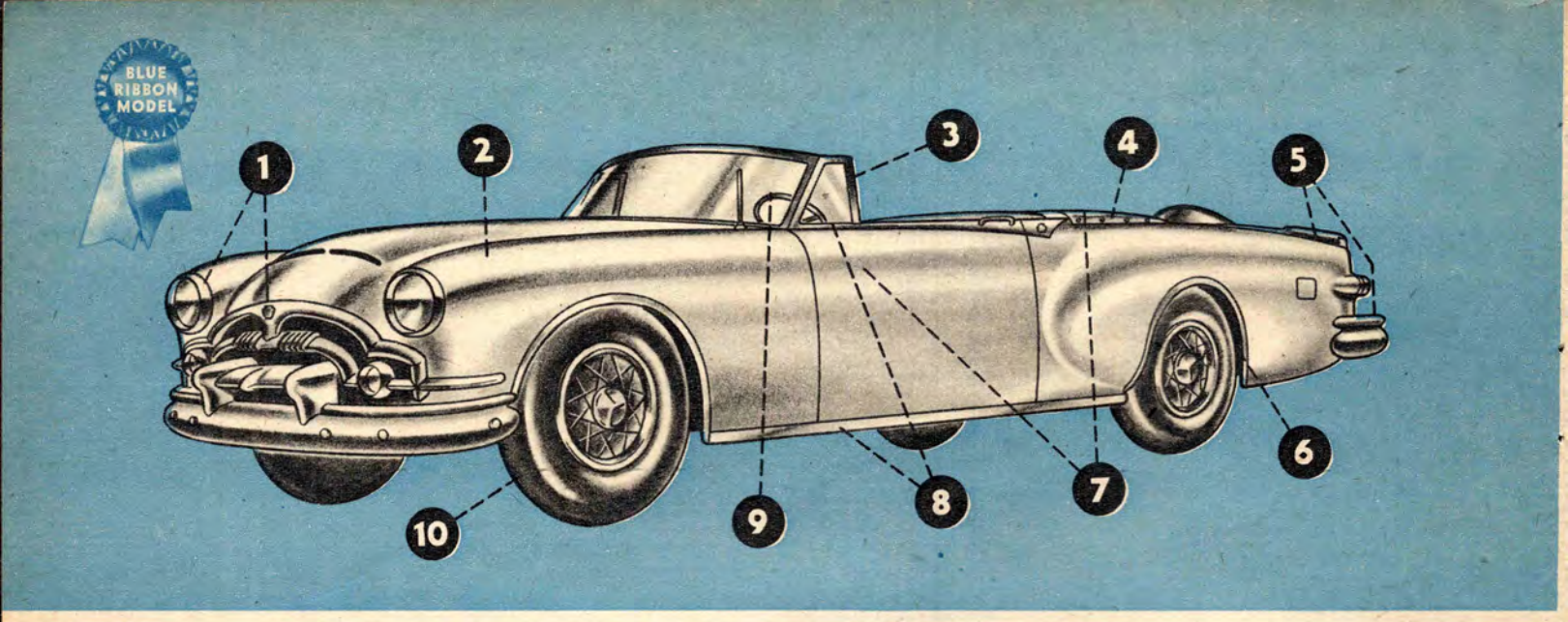


Packard Caribbean

■ Among Berkeley Models, Inc. (West Hempstead, N.Y) new scale model car kits is the Packard "Caribbean," a 6-passenger custom-built sports convertible. Modified Packard Thunderbolt engine of 180 hp powers the big car which is strictly American in styling.

Like other Berkeley cars the Caribbean is a ½" scale copy; overall length is 8¼". Kit has solid balsa body block (2). All the difficult cutting is finished. You do the final shaping. The openings for front and rear seats have been cut out, more trimming brings them to exact size and shape.

Wheels (10) are 1⅛" dia. rubber with pressed metal hub caps. Decal sheet carries representations of spokes for all five wheels. Other decals furnish body trim strips (8), complete dashboard, license plate, cover (7) for folded top.

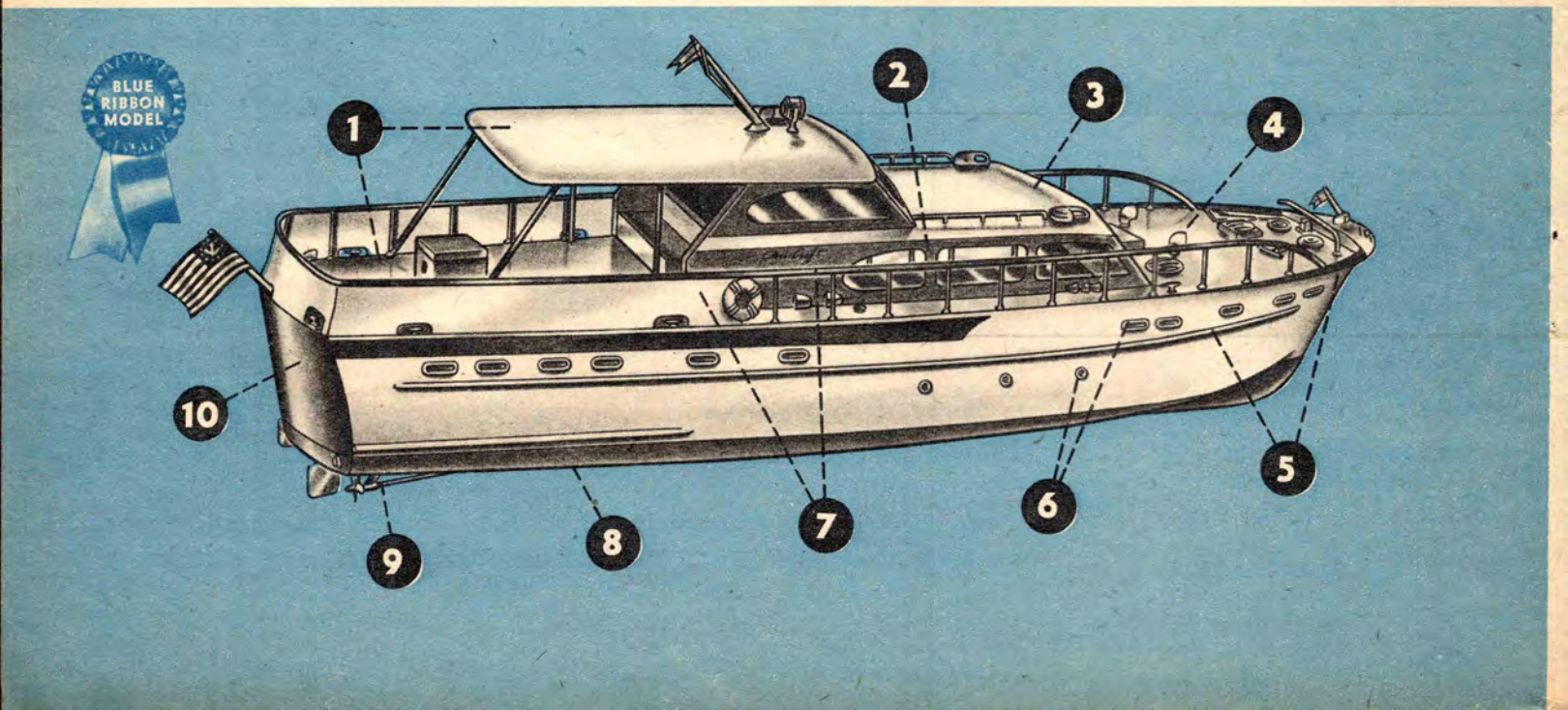
Big feature is cast metal parts: entire front bumper and grille (1) is one piece. Over a dozen other cast parts include steering wheel (9), fender trim (6), rear fender "fins" (5), lights. Also in kit are (3) die-cut, printed, plastic windshield and (4) plastic upholstery material.

Chris-Craft Motor Yacht

■ Chris-Craft's 63-foot Motor Yacht is a fabulous craft with its accommodations for 13 persons. The miniature of this floating palace produced by Sterling Models (Phila., Pa.) is a die-cut wonder that's 40" long with a beam of 10¼". Power can be one or two electric motors, or a single glow engine (the .19 class is suggested).

Two types of 3-ply mahogany are included, African mahogany and "gaboon mahogany." For those who wish to have the utmost in realism, Sterling sells a separate kit of die-cast fittings for this model.

The large double-sided plan sheet is supplemented by a 15-page assembly book which includes suggestions for radio control. Features include: (1) die-cut balsa frame, sheathing for roof; (2) die-cut mahogany cabin sides; (3) shaped balsa cabin edges; (4) die-cut, scored mahogany fore and aft decking; (5) die-cut formers, keels, planking—shaped nose blocks; (6) brass ports, vents, grates; (7) muslin, reed, dowels for railing and cover; (8) tubing, shaft, nylon propeller supplied for gas engine power; (9) scale twin screws, rudders; (10) die-cut mahogany transom.



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SPACE BUGGY

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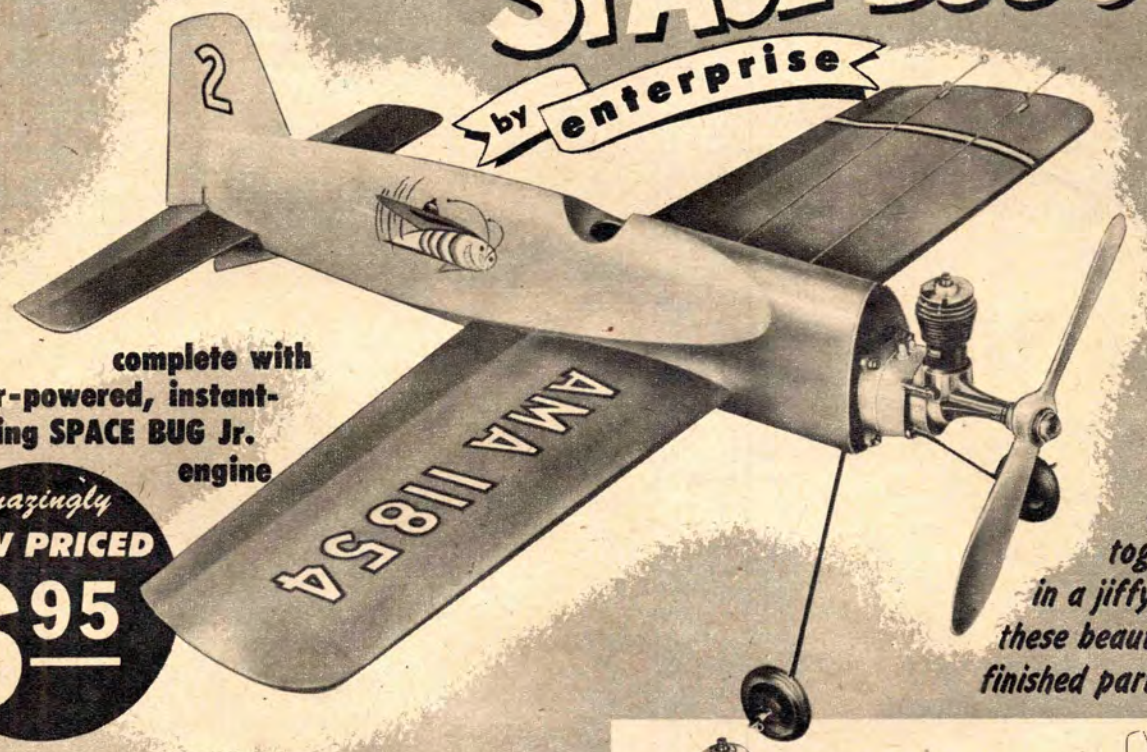


complete with super-powered, instant-starting SPACE BUG Jr. engine

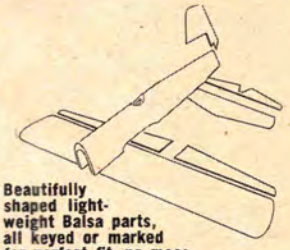
amazingly **LOW PRICED** **$6.95**

snaps together in a jiffy with these beautifully finished parts....

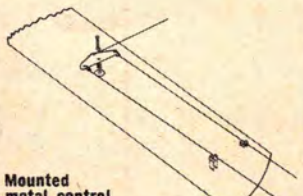
- **No tiresome construction. Ready to assemble and fly in an hour!**
- **Sleek finished Balsa body and wings . . . No measuring . . . All parts keyed and indicated for perfect fit . . . Complete hardware!**
- **Formed pushrod!**
- **Extra parts and accessories never before offered in any flying model!**
- **Genuine unbreakable plywood elevator!**
- **Easy-guide Control Handle . . . self aligning controls . . . metal control mount!**
- **Flies up to 10 minutes without refueling!**
- **Guaranteed for top flying performance and loads of flying fun!**

A NOTE TO PARENTS: *Enterprise Model Aircraft, one of the leading hobbycraft manufacturers, has engineered the Space Buggy so that any youngster can easily assemble and fly this engine powered model airplane himself. The Space Bug Jr. engine, manufactured by the L. M. Cox Manufacturing Co. of Santa Ana, Calif., is guaranteed to be the finest and easiest-to-operate engine available. The Space Buggy will open the door for your children to one of the most satisfying of all hobbies—Model Aviation. A hobby which is both interesting and educational, which will keep them busy today, and prepare them for the air age of tomorrow.*

Complete with instant starting Space Bug Jr. engine. Including attached plastic gas tank, propeller, engine wrench, and complete instruction manual and guarantee.



Beautifully shaped light-weight Balsa parts, all keyed or marked for perfect fit, no measuring necessary, no special tools required.



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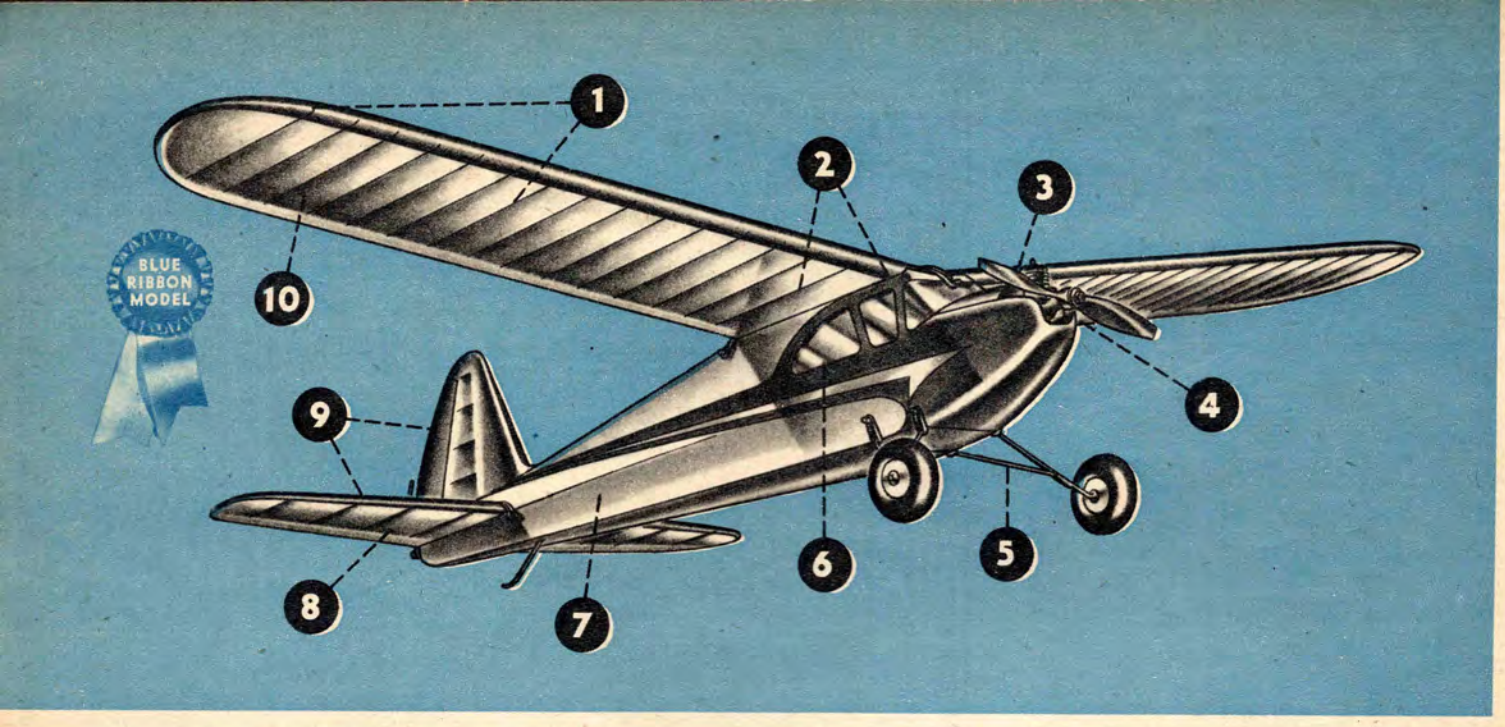


Buzzer'd for R/C

■ An attractive 72″ span model for radio control, the Buzzer'd, designed by Hi Johnson, is produced by Kenhi Model Products (Burbank, Calif.). Wing area is 720 sq. in.; weight is around 35 oz., less radio. Engines in the .19-.35 range are suggested.

Both stab and wing are of multispar construction; shaped and notched leading and trailing edges and die-cut ribs are given. The plans show how to mount Bonner Compound and Motor Control escapements, location of rubber drives and rudder torque rod.

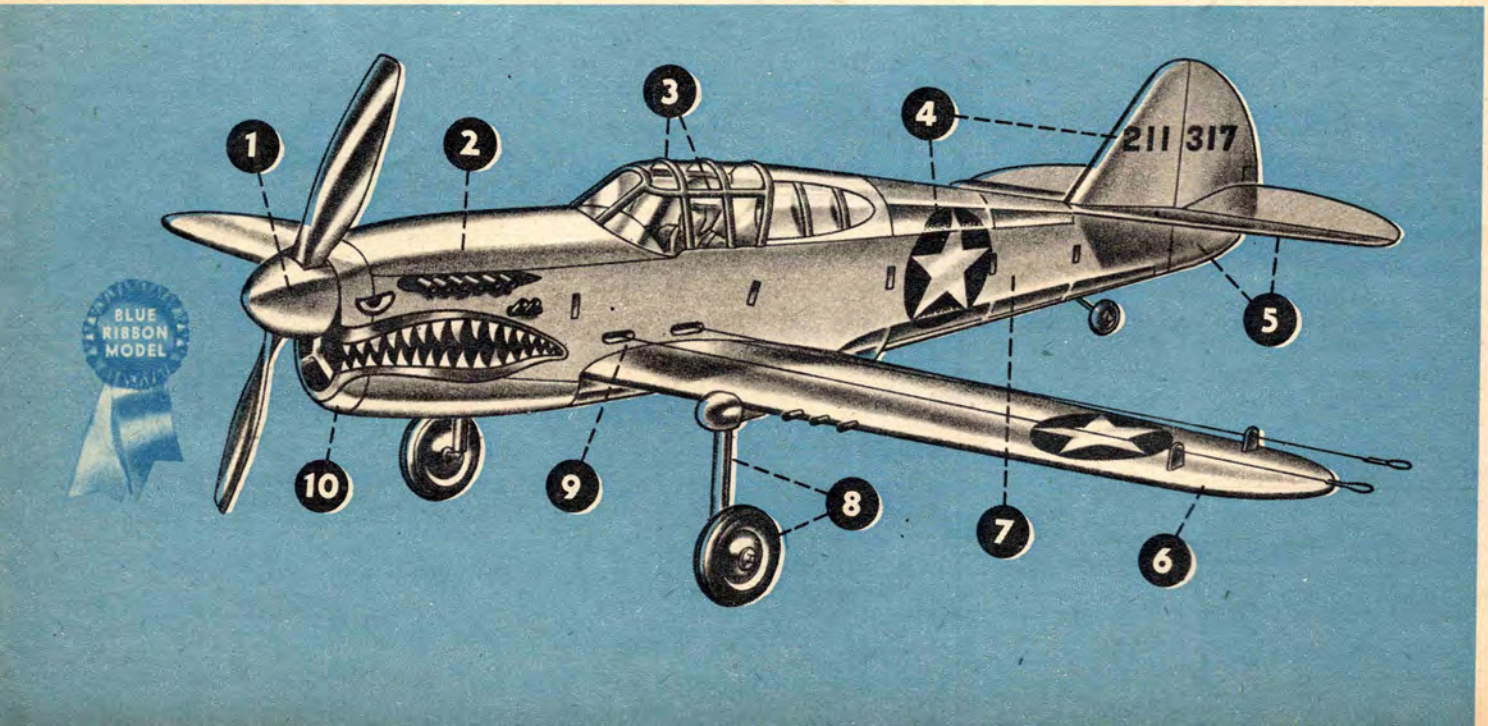
Kit features include: (1) die-cut balsa ribs, tips; (2) spars, joiners, leading and trailing edges cut to dimension; (3) hardwood motor mounts; (4) provision for .19 to .35 cu. in. displ. engines; (5) preformed struts for shock-mounted gear; (6) die-cut cabin parts—plastic windows cut to shape; (7) fuselage parts die-cut, notched for alignment; (8) detailed instructions and wire parts for control installation; (9) complete die-cut ribs, edges, strips, etc. for tail group; (10) heavy Silkspan covering material.

Curtiss Warhawk

■ This perennial favorite, the P-40, is a control line kit designed by Jerry Brofman, and produced by Enterprise Model Aircraft & Supply Co. (Mineola, N. Y.). Span is 17.5″; length is 14⅞″. For engines of .039 to .074 cu. in. Wing area is 49 sq. in.

Built-up construction is employed for the fuselage; it is made entirely from 3/32″ balsa sheet, with two full-length notched side pieces and six formers. From the rear of the canopy to the tail, and on the underside of the fuselage aft of the nose block, balsa stringers are installed and covered with tissue.

Step-by-step assembly is shown on the plan sheet. Kit highlights are: (1) plastic propeller spinner; (2) preshaped balsa top and bottom cowl blocks; (3) finished plastic canopy and pilot; (4) complete color decal insignia and decoration; (5) die-cut balsa tail group; (6) shaped balsa wing; (7) die-cut balsa sides, formers; (8) rubber 1″ wheels, shaped wire and rubber tubing; (9) complete control system hardware; (10) plastic cowl front piece.



Come on, Hal—tell the "Big Boys" how you do it!

Hal Roth of Richmond, Calif.

Hal won a record-smashing first place in the model Clipper* Cargo PAA Load Event at the '53 NATS. His 6-oz. model carried 23¼ ounces of payload—a ratio of weight empty to payload which never has been approached by the "Big Boys" in full-scale aviation!

PAA LOAD EVENTS

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Sponsored first by Pan American in 1948, these weight-carrying events for free-flight gas models have caught on like wildfire. This year they will spark many local and regional meets—and the spotlight will be on PAA Load Events at the NATS.

In designing your entries, remember that the purpose of the event is to encourage the building and flying of model aircraft which resemble full-scale airplanes with respect to *carrying a payload safely through the air.* After all, isn't this the basic purpose of commercial aviation itself?

Start on your PAA Loader now. For rules and specifications for 1954, write to: Educational Director, Pan American World Airways, 28-19 Bridge Plaza North, Long Island City 1, New York.

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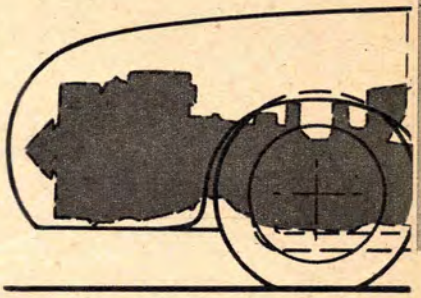
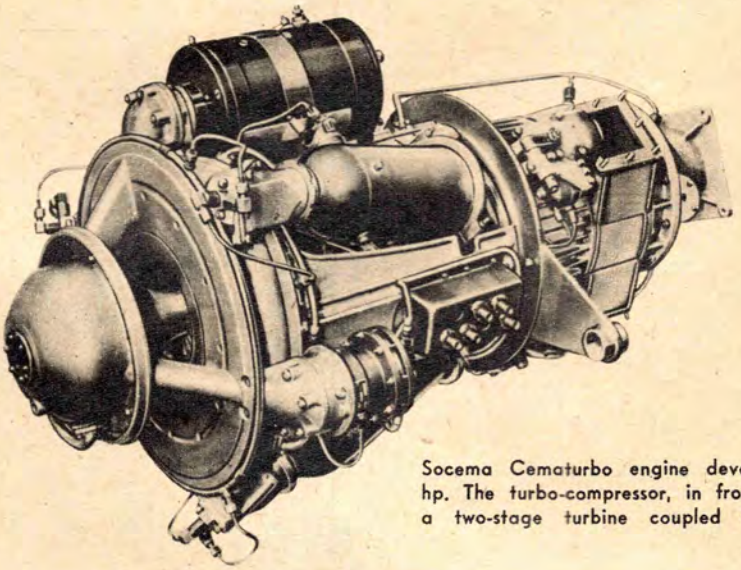
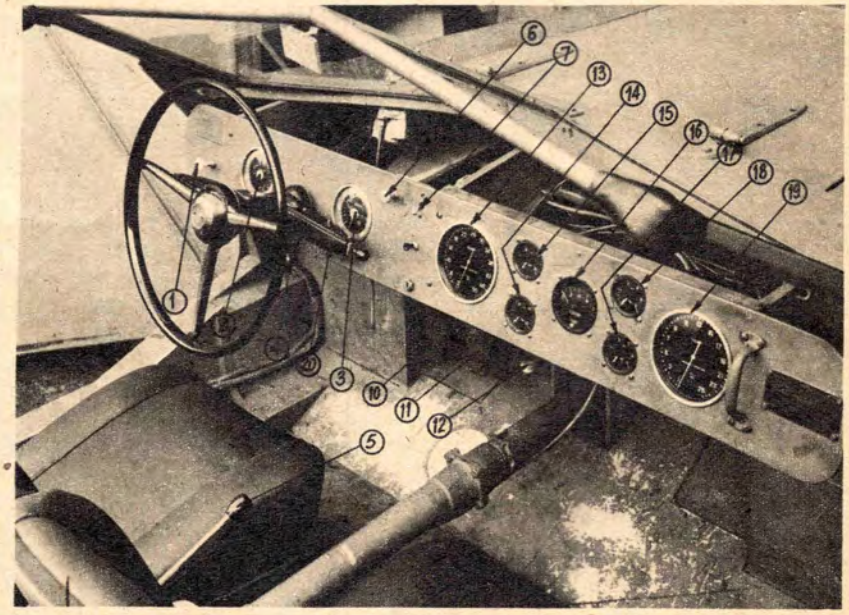
SOCEMA-GREGOIRE Turbocar



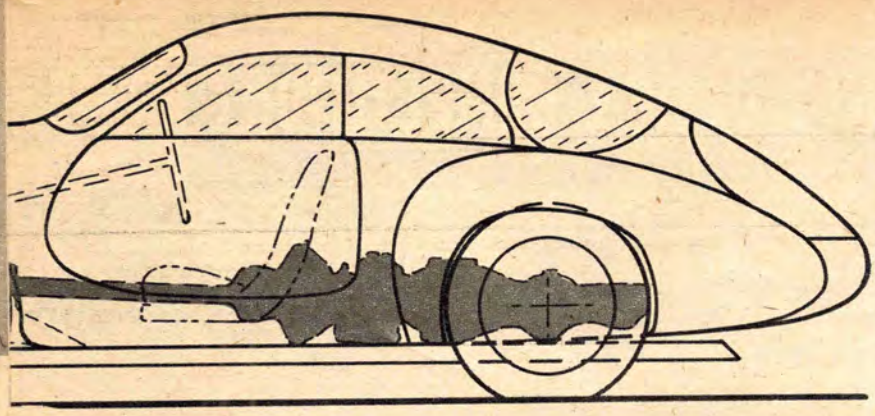


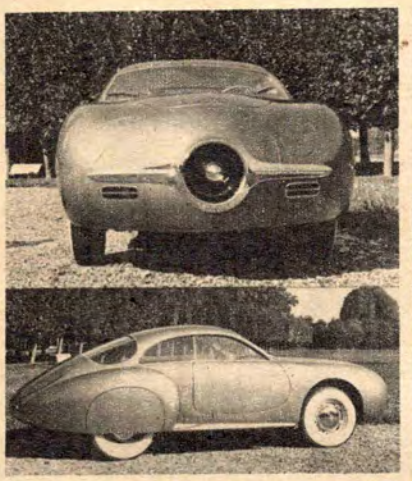
Socema Cematurbo engine develops 100 hp. The turbo-compressor, in front, drives a two-stage turbine coupled to shaft.

Turbine engines for automobiles are on the way, though much is to be done before we see them rolling down the highway in great numbers. For instance, there is the problem of how to slow down such a car without use of brakes. Also, the driving turbines turn at speed of around 25,000 rpm as against the piston engines which rarely exceed 4500 rpm. This requires complicated reduction gear system in order to rotate drive shaft at required speed. Fuel consumption of the turbine is twice that of a standard automobile.



Instrument panel and controls of the turbine powered car: 1. Pushbutton stdrter. 2. Combination fuel, oil gauge and ammeter. 3. Speedometer. 4. Parking brake. 5. Hand clutch. 6. Pushbutton for electromagnetic decelerator. 7. Fuel switch. 10. Clutch pedal. 11. Foot brake. 12. Accelerator. 13. Compressor tachometer. 14. Pressure gauge. 15. Pressure gauge. 16. Temperature gauge. 17. Oil pressure gauge. 18. Oil pressure gauge. 19. Turbine tachometer. 20. Gear shift. Shown here is the test chassis, not the finished car.

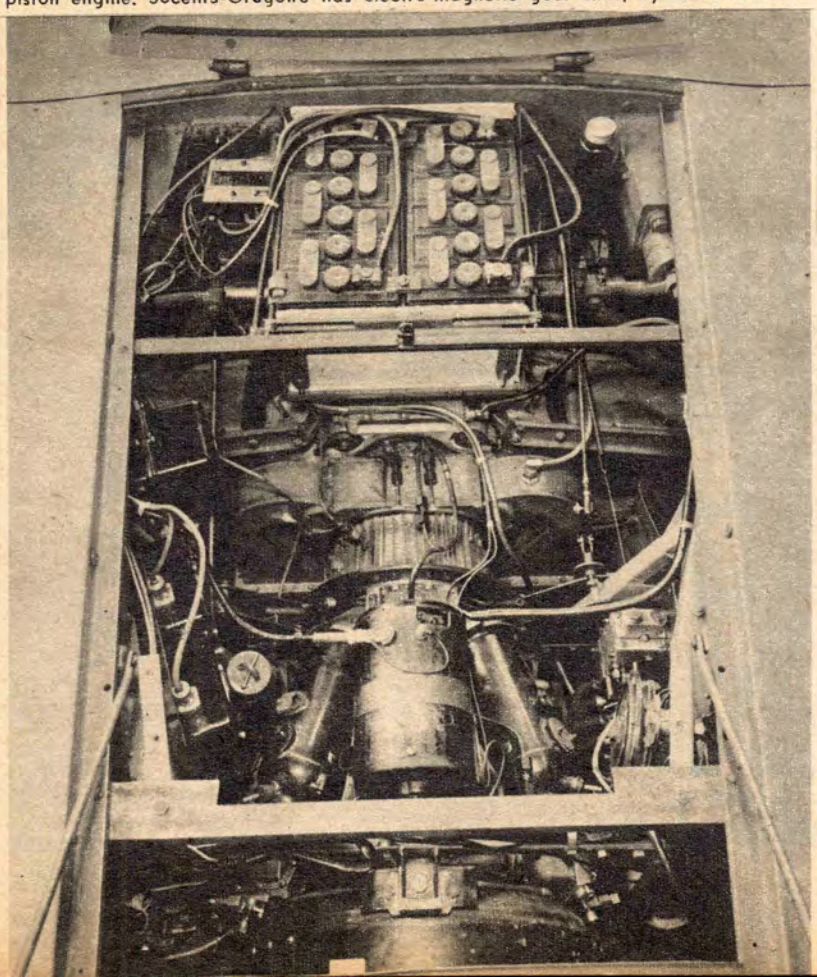




Car is combined effort of two French concerns, Socema, the designers of the Cematurbo engine, and Hotchkiss-Grégoire, who built the chassis and body. Head-on view shows round air intake.

Engine being installed in chassis. Note screen in front of compressor to protect blades from stones and other objects. Turbo-compressor unit turns at 45,000 rpm, driving the turbine at 25,000.

Underhood view of engine shows two 12 volt batteries. Electro-magnetic decelerator slows car as soon as your foot is off the gas; this job is done by compression in piston engine. Socema-Grégoire has electro-magnetic gear shift, hydraulic brakes.



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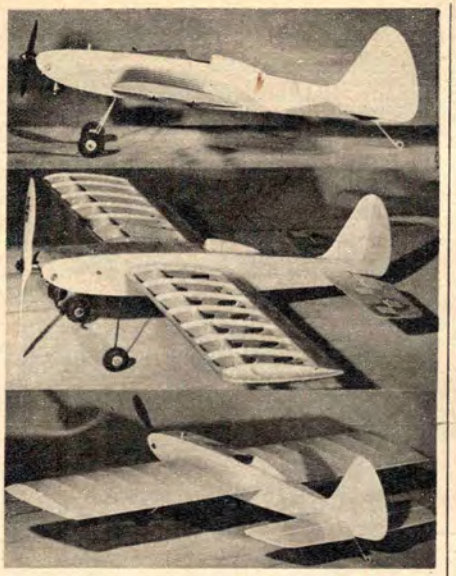

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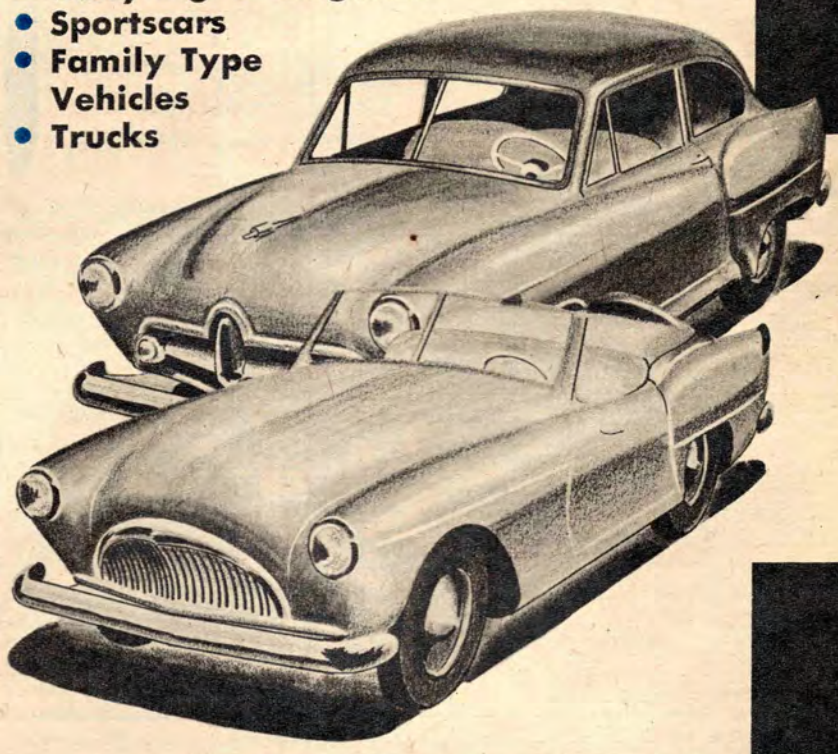
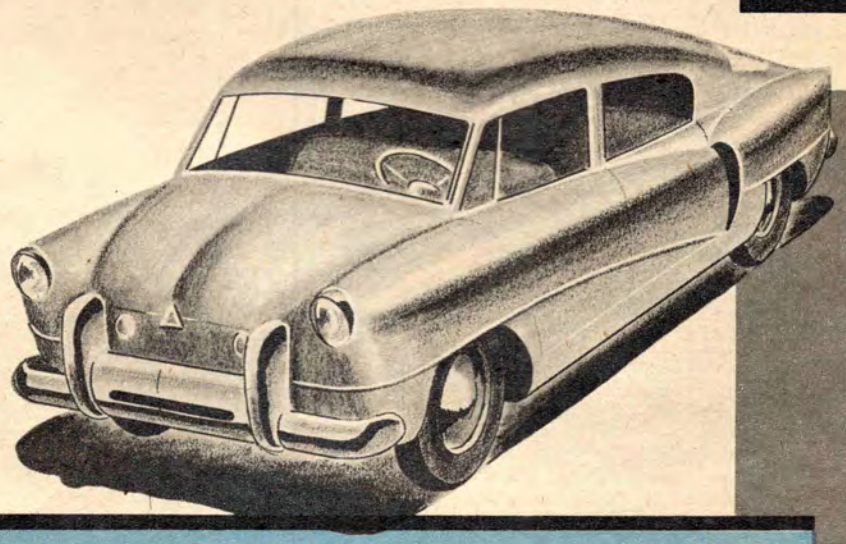
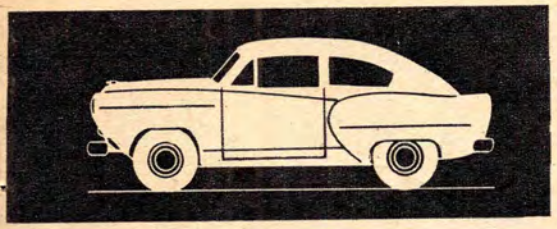




AWARDS OF $50.00—$25.00—$10.00 EVERY ISSUE

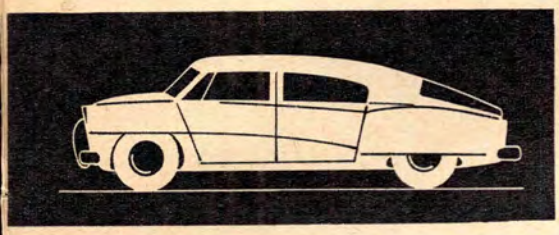
Cash awards will be made each issue for the three most significant auto designs submitted to this magazine. $50 will go to the top design, $25 to the second and $10 to the third. You may submit sketches for an original design auto, for a restyled car, for sportscars, family sedans, record cars, hot rods, military vehicles or unusual trucks. Include side, front, rear and top drawings, plus sketches of the proposed vehicle from three-quarter front and three-quarter rear positions. Because of the large number of anticipated entries the editors and judges cannot enter into correspondence about this contest. Send entries to Auto Design, c/o Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y.

IT'S EASY TO ENTER YOUR DESIGNS



RESTYLING . . .
An example is this smart 2-seater made from Henry J. Give estimated performance.

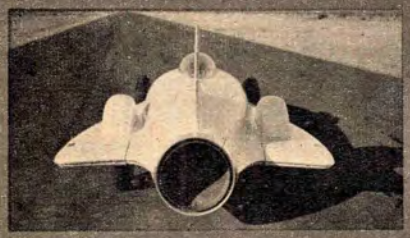
ORIGINAL DESIGN . . .
Something like this sedan with rear engine?



CAN YOU BETTER DETROIT'S DESIGNS?

Buick Fiberglas Wildcat

Oldsmobile F-88



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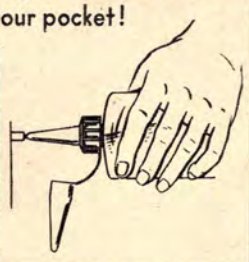
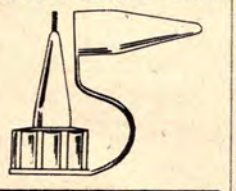
Unbreakable, fuel-proof, compact squeeze-type plastic container and metal-tipped fillling head fuels all tanks.



Special built-in strainer filters out dirt and impurities — assures entry of clean gas into tank.

Pressure-cap for sealing Handy Boy against evaporation loss or spillage; permanently attached.



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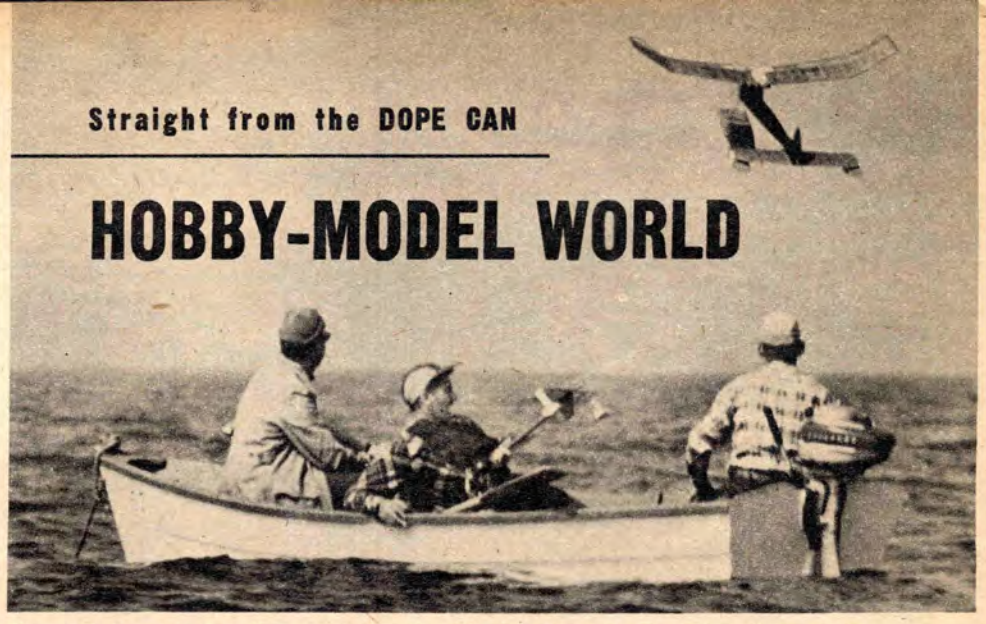
HOBBY-MODEL WORLD



Plymouth Drops Internationals. After 7 years of air-model meet sponsorship, Plymouth has dropped the "International Model Plane Contest." Though it is expected that some local Plymouth car dealers will participate in contest work within the community, there will be no more regional competitions or Detroit "finals."

Plymouth's general sales manager, W. J. Bird, stated that the auto concern "can best serve the sport of model plane building and flying through our PAL Club program which is designed to bring more young people into model plane aviation from very elementary stages of model building to the finished flyer."

The automotive manufacturing concern now has 200 active PAL Clubs in operation. ("PAL" in this case stands for Plymouth Aero League, not Police Athletic League.) It is understood that a number are in or around Ohio.

First indications were that the operation of the PAL Clubs would be passed over to the Academy of Model Aeronautics.

Notable Members. New Dallas, Texas, model aero club: the Cloud Cutters which meet at 2021 S. Beckley. President is ex-USAF pilot Dick (B-26 C/L model) Atkins, Jr.; veep is George (national senior stunt champ) Aldrich. Thirty members currently active; club has special training classes for 10 to 15-year-old novice flyers. Dick reports that the model aero club constitution "in the '53 Air Trails Model Annual was really a help in organizing the club, in fact the whole article was the basis for setting up the various functions."

Academy Prexy Reelected. Keith Storey of Pasadena, Calif., was reelected to a second term as president of the Academy of Model Aeronautics. Secretary-treasurer is George J. "Curly" Clingman of Indianapolis. The various regional vice presidents and contest board members have all been selected; their names and addresses may be obtained from the A.M.A. (1025 Conn. Ave., N.W., Washington 6, D. C.). Just write.

Walker to Europe. Best way to keep up with Jim (Mr. U-Control) Walker is to read his correspondence. No, we haven't been intercepting the government mails, just browsing through carbon copies of letters he sends along to us. As a result—big news!

Mr. Walker, designated "America's No. 1 Modeler" by the 1954 edition of Air Trails Model Annual,

L. I. Hydro meet big-wigs (from left): Henry Struck, ex-U.S. champ; George Gardner, PAA; CD Johnke, J. B. Billings & R/C Box.

is planning now for a European tour next year. He'll take along his exhibition auto and trailer since the amount of equipment he transports to his model air shows is considerable. His auto, for instance, has a telephone, all channels of amateur radio communication, television, sound recording system, public address facilities and complete sound movie facilities both for filming and projecting.

During the summer of '55 Jim expects to visit and put on shows in England, France, Switzerland—maybe Russia, too, if arrangements can be made.

(First America invents the A-bomb, Ethel Merman is sent as Ambassador to Lichtenburg, then Jim Walker invades Russia!)

Walker's model plane exhibition program includes these acts: "Flying in the Sky"—here he launches a Firebaby out of his hand and with U-Reely controls lets 'er out to 300 feet for long-line maneuvers; "Sabre Dance"—hovering flight and balloon bursting with backward flights; stunting two Firebabies—one in each hand while talking to the crowd through his Man-from-Mars space

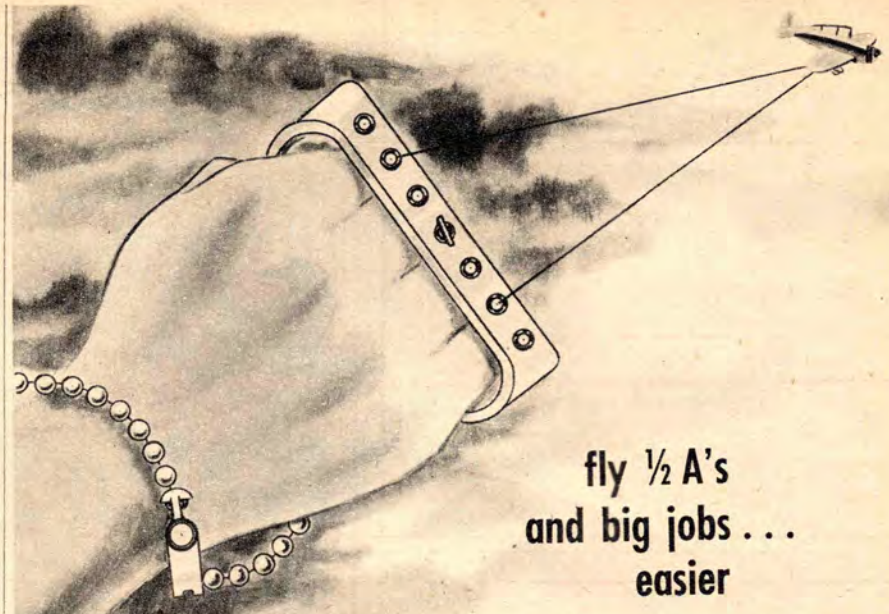
Bill Johnke, champ Alfred Schumacher, Jr. and Berkeley's Bill Effinger. Al won boat motor, 4 trophies, PAA Bulova, Aerotrol!

helmet-RC/PA system; flying three planes at once—all by himself!; one-man combat fight; boomerang glider tricks; sonic control gliders; midair crashes; R/C lawnmower maneuvers; helicopter flying and flights with his radio control airplane which holds the world's record for highest total points over a closed course.

This last model, designed and built by Jim, is equipped with a positive-position control which operates rudder, elevator and engine independently of each other. Also, it is equipped with a steerable nose-

(*Continued on page* 112)

This ROW flyer really believes in throwing himself into his work! Mighty purty wake there, but is that a shove we see there?



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with separable handle for maximum flight sensitivity and control

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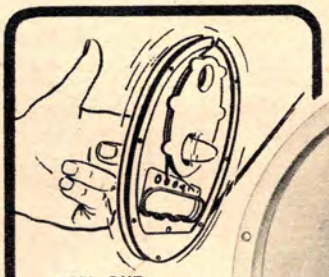
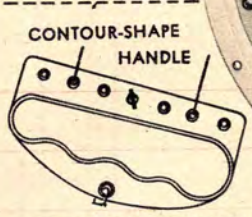


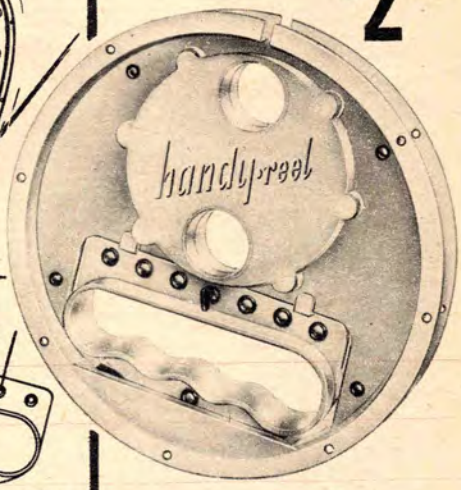
REEL OUT — REMOVE HANDLE TO FLY . . . get the full feel of your ship; maneuver with thrilling sensitivity and control. Handy Reel takes all lines . . . will withstand pulls in excess of 100 lbs.

REEL OUT

CONTOUR-SHAPE HANDLE



CONTROL LINE ADJUSTMENT



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Safety Accessory . . . adjustable; locks handle to wrist, avoids loss of ship or injury to spectators. Required by AMA for contest flying. .75

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Conveniently stores the lines . . . connected and ready for flight

- *large diameter reel prevents kinking of line.*
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New! FIELD STRENGTH METER KIT, checks your transmitter signal. Use any meter up to 5 Ma. All parts & diagram, less meter..... 1.35
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R/C COMBINATION TESTER: 5 Ranges: 5 Ma, 50 Ma, 5 V, 50 V, 250 V. **NOT A KIT**..... 8.95
Brand New 2 V. VIBRATOR TRANSFORMER, as used in PE157. Output voltage 180-135 @ 35 Ma. 3.50
NEW BEEP BOX. Fits in palm of hand! Rotary type works with any transmitter & self-neutralizing escapement. **NOT A KIT**..... 1.95
NEW! STOP WASTING MONEY on dry batteries for your transmitter. Add our **2-VOLT VIBRATOR SUPPLY** to any transmitter; output 135 to 180 V. Kit: **$6.95**.....assembled 10.95

Low Cost PROPORTIONAL CONTROL *added to any Transmitter & Receiver. Works with any other Actuator.*
COMPLETE KIT of parts & diagrams for TRANSMITTER PULSER, incl. battery & case..... 6.95
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ADAMS ACTUATOR . . . not a kit..... 6.45
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Powerful 5 watt, 2 tube MAC II circuit. Available in following models—incl. antenna, meter & keying switch—ready to operate. FULLY GUARANTEED.
MODEL X1 in attractive case with built-in storage battery, vibrator supply & charger 37.50
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R/C KITS—Sensitive Receivers
Parts packages including Diagram Potentiometer & all parts (except tubes, relay, OSR coils)
LORENZ 2-Tube MILLER; SIMPLE SINGLE..... 2.85
RECEIVER KITS, with all parts including tubes and **SIGMA 4F RELAY,** etc.—**LORENZ**..... 13.90
MILLER.....**$10.05; SIMPLE SINGLE** 9.85
JOHNSON TUBE RECEIVER KIT—parts & diagram (less tubes, relay & Quncer choke)..... 3.50
Above KIT, complete with tubes, relay & choke 13.95
MINI-MAC KIT with Tube, less relay..... 5.95
ABOVE KITS with wound coils & drilled chassis, add ..... .50
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Parts and diagrams (less tubes & crystal) to build famous **MAC II Transmitter Unit** and **LORENZ RECEIVER,** with 10,000 ohm relay
PARTS FOR THE MINI-MAC Small quench coil 1.25
.05 Condenser .... **.25** Padder Condenser .60
TUBES: CK526AX 2.25 CK506 ..... 1.65
RELAY-S.P., 5,000 ohm..... 6.50
ESCAPEMENTS: BONNER MINI..... 6.95
SUPER AEROTROL.....**3.95** ED MARK III... 5.95
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CRYSTALS, 27.255 Mc Peterson 29A..... 4.75
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6 VOLT DYNAMOTORS, with Shockmount base, 250 Volts/65 ma..... 7.95
300 Volt/165 ma, **$9.50:** 180 Volt/100 ma. 7.95
SIGMA 4F RELAY COILS: Repair defective relays—2,000: 3,000; 8,000; or 10,000 ohms 1.10

SAVE 10%—Deduct 10% from any of the kit prices when ordering with any escapement.

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ER-40-6, 6 Volt, 4¾"x7" sq..... 5.25
STORAGE BTRY. CHARGER, 2 to 6 Volts, 6A, self regulating with charge indicator, special! 7.95
CHARGER FOR DRY BTRIES. Use 1 set of A & B's all season! Recharges all 1½ to 90 Volts 6.50
VIBRATORS, 6 Volt **$1.35;** 2 Volt Synchronous 1.00
METERS: Accurate, 2" sq., 0-500 Microamp.... 5.85
0-1 Ma.....**$3.75** 0-3 Ma.....**$2.95**
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FLEAWEIGHT HOOKUP WIRE—25 Ft. (5 colors) .25
INSULATED SCREWDRIVER, for tuning adj..... .35
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PLUG & SOCKET, small 3 or 4 pins.....pair .15
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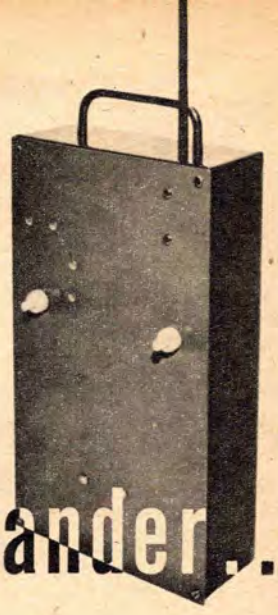

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MOPA Xmtr, Hard Tube Rcvr

■ Available only in finished form, the ECC line of R/C apparatus was designed in England, but is intended for use in this country. The transmitter is crystal controlled—a feature not required in England, and not very generally used there.

Designed to be held in the hands while in use, this transmitter has quite a few unusual features. In the first place it uses a master oscillator-power amplifier circuit with separate oscillator and amplifier tube. Actually, both tubes are in one envelope, since a standard 3A5 tube is utilized.

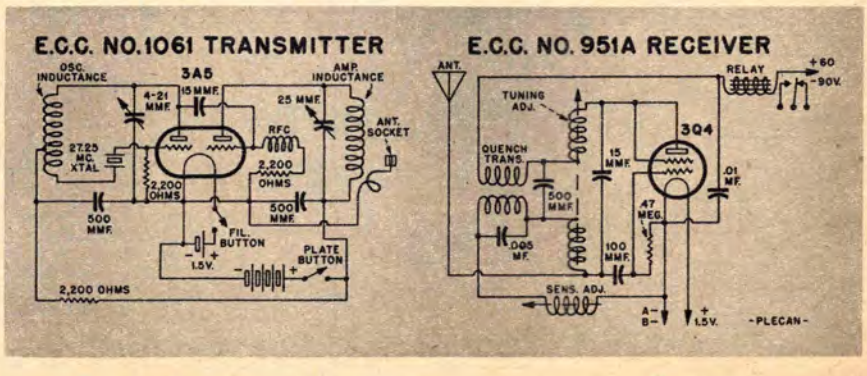
The circuit is further unusual in that the final amplifier is not neutralized, generally thought a necessity when the oscillator and amplifier operate on the same frequency, as they do in this unit. The oscillator employs a tapped-coil circuit, quite common in R/C transmitters; power output of the first half of the 3A5 tube is capacity coupled to the grid of the amplifier section. The plate circuit of the latter has the usual inductance and air tuning condenser. Antenna coupling consists of a single turn around the "cold" end of the plate inductance.

In a circuit of this sort, tuning the plate circuit of the amplifier results in considerable reaction on the oscillator tuning. For this reason, the tuning acts very much like a plain crystal oscillator transmitter. As the amplifier plate condenser is rotated, there is the same sharp cessation of output to one side of the point of maximum output, and a much more gradual drop off, with rotation to the other side. The circuit is very easy on the crystal, and power output is ample for normal R/C purposes.

Another novel feature of the transmitter is that there is no filament on-off switch. Instead, there is a button to close the filament circuit, and another to close the high voltage circuit and send out a signal. Since an escapement-equipped model requires a signal only a small percentage of the time, this arrangement is quite adequate, and it saves filament battery power. For this latter reason, the filament battery can be smaller than usually seen in such transmitters.

The transmitter is mounted on a gray hammertone finished aluminum panel, all parts being attached to this panel, including the batteries, for which clips are furnished. A molded bakelite case covers all the parts, and a metal handle is fitted for ease in carrying.

ECC's single hard tube receiver is mounted on a molded bakelite plate,



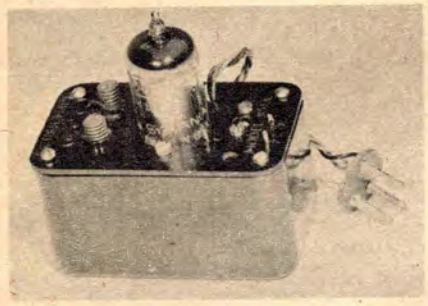
which also includes integral coil forms. There are two iron slug cores that may be reached from the top of the plate, or panel. The tube is mounted in a socket spaced considerably below the panel, so that only about half is outside the case.

The battery connections are made through a three-wire cable which terminates in a small plug. All three relay contact connections are made to solder pins on the panel.

An instruction sheet for the receiver carries a chart of plate current readings and relay settings; the receiver may be used at from 60 to 90 V., and on the latter, the idling current will be around 5 ma. Our tests were made at 67½ V., and results tallied exactly with the Test Card packed with each receiver.

SPECIFICATIONS

Transmitter: No. 1061. Case size, less handle and antenna—10" x 6¼" x 2¼". Two operating buttons project about ⅝". Weight with all batteries, about 3 lbs. 7 ozs. Panel has filament pushbutton and plate pushbutton (both must be held down at once to send out a signal). No provision for tuning meter. Antenna plugs in through hole in top of case; it is



a 4-section unit about 48" long, and folds up to about 11½".

Battery complement: A—one 1½ V. cell fitted with socket. (Eveready No. 960P or equiv.) 1½ V. at 200 ma. B—two 67½ V. batteries (Eveready No. 467 or equiv.). 135 V. at about 18 ma.

Receiver: No. 951A. Single hard-tube type. Separate screw controls for tuning and sensitivity. Receiver size with bottom cover in place, 2½" x 1½" x 1⅜". Tube projects about 1⅛" above top of panel. Receiver weight with tube—2.85 oz. Relay tension screw adjustment may be set from top panel. Molded case-bottom held on with four corner screws which also carry small lugs to be used for rubber shock suspension. Suggested antenna length—3'; use of 5-30 mmf. variable antenna series condenser may be necessary in some installations.

Battery requirements: A—1½ V. at 100 ma. B—voltage from 60 to 90. Idling current 2.8 to 5 ma. Current with good signal, about .5 ma., regardless of battery voltage. Lightest possible battery complement (two pencells and two 30 V. batteries)—4 oz.

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Fox .19	12 " " 3 " "	11 " " 4 " "
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Fox .29	12 " " 3 " "	12 " " 4 " "
McCoy .29	12 " " 3 " "	12 " " 4 " "

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The new 10" dia. Plasticote Propellers are now available at 30c ea. in 5 and 6 in. pitch. On all the .29's use a 10-5, on the .32 and .35 a 10-6. Forster 29 and 31, McCoy 29, do very well on the 10-5. The efficiency of the Plasticote propellers run up to 95%, and it may be advantageous to try a 10-5 instead of a 10-6.

RADIO CONTROL NOTES

When flying R. C. it is necessary to reduce venturi opening from 25 to 50% on almost all engines. Large props slow your engine R.P.M., reducing suction. The model does not fly level at all times . . . dives and stalls are encountered changing the fuel force. Plug the venturi opening to such an extent that you get the power you want from your engine. Too much speed in R.C. can be disastrous.

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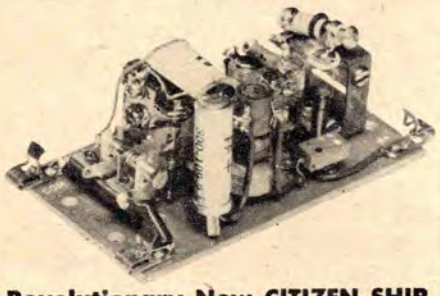

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SOUTHERN MODEL SCENE

■ Atlanta Junior Chamber of Commerce will sponsor 16th annual Greater Southeasterns at Naval Air Station June 18, 19, 20. Sunday afternoon will be Navy "Open House." In all probability, the famous Blue Angels will highlight the afternoon show, coupled with combat, open stunt, jet, radio control events. This sponsorship was suggested by Lt. Commander Ed Goshhorn and is a project of the Jaycee aviation committee.

Larry Cooper, Columbus, Ga., model airplane "wheelhorse," reports two new clubs. Branching out from the parent club, the "Trinity Angels," are the "Yellow Jackets" affiliated with the Columbus Boys' Club, and one at the Negro Branch of the Columbus Y. M. C. A.

Meet Gable Ray, a resident of Smyra, Georgia . . . 20 years old . . . a modeler for 12 years . . has about 40 trophies in his collection. He attended two Plymouth Internationals in Detroit . . . last year hit the national picture with three firsts at Willow Grove: Nordic towline glider, set new national record in limited towline glider, took first in Half-A free flight. Just for good measure he won 7th in hand launched glider. Other winnings in 1953 were Senior High Point at the 1953 Greater Southeasterns. Now a junior at Georgia Tech in the School of Aeronautical Engineering . . . ahead is the Air Force or a job with Lockheed in nearby Marietta.

Interested in the development of design theories concerning Nordic gliders and F.A.I. gas ships. He draws a sharp contrast between the fine European Nordics with their highly cambered wing sections, long tail moment arms and small stabilizer areas (which fly fine in calm weather) and the typically American short coupled wing and tail that performs best in our prevailing weather. Believes that there is a great future for our American designers who can come up with models that will win both here and abroad.

Bill Wright of 199 South Park Manor, Lebanon, Mo., writes us a long letter. Bill has my son, Bob and myself confused. (Bob is the flyer, I just write this column and work behind the scene to help.) Bill was born in North Carolina, lived at Gray, Georgia. Anxious to exchange ideas with speed boys near his old stompin' grounds. Last January, Bill became a U. S. Marine.

Montgomery, Ala., "Rebelairs" for the second year put on thrilling combat program in connection with the "March of Dimes" campaign. Small admission fee helped the campaign fund and brought model aviation to the attention of people in that area.

Staging air-model flying exhibitions for "March of Dimes" began with "Rebelairs." Now we hear that Henry Copeland over in Tuskegee did same last January.

Not to be outdone, Larry Cooper put on similar show at Golden Park in Columbus. Collection pots at the gate helped to raise money for this worthy cause. We recommend this to all clubs. Put it on your 1955 calendar!

—*R. H. Elliott, Box 5078, Atlanta, Ga.*

(Continued from page 79)

When you think of the word "scholarship" think also of the word "military" —and see if the correlation is a valuable one in your case. Around 40 of our states have taken measures to help in continuing the education of children of veterans, with emphasis in the categories of disabled or deceased vets. Peacetime military organizations ranging from the Sons of the Revolution to the Veterans of Foreign Wars lend their financial support. The American Legion offers 20 national scholarships worth a maximum of $1200 each for a four-year college or technical course to any son of a deceased or incapacitated veteran of World War I *or* II—and it does not matter when your father died or the cause of his death. The Illinois Institute of Technology in Chicago has more than a score of $300 scholarships for descendants of service men in World War I.

Tip: The American Legion conducts a Scholarship Information Service, welcoming especially inquiries from children of deceased soldiers, sailors or marines. Write to the American Legion, Child Welfare Division, P. O. Box 1055, Indianapolis, Ind.

The biggest college scholarship bargains in the land list as their benefactor one Uncle Sam—and we don't mean the benefits under the G. I. Bill. Not only do you receive free tuition, but board, room, clothes and pay. The schools, of course, are West Point and Annapolis. If you are interested in a career as an officer in the U. S. Navy, write for the pamphlet "Regulations Governing Admission of Candidates into the Naval Academy as Midshipmen and Sample Examination Questions," to be had from the Chief of Navy Personnel, Navy Department, Washington 25, D. C. For information about West Point, write for the official USMA catalog from the Registrar, U. S. Military Academy, West Point, N. Y.

Here are some general facts that will answer some specific questions you may have about any scholarship. Most grants are for one year, many are renewable each year if you maintain your grades, and a number cover the full course. You may hold more than one scholarship at a time. The money is paid to the school, not to you. To apply, you simply fill out a printed form obtainable from the source. The deadline for application is

HOBBY CALENDAR

List your hobby club's public shows here! Advise Air Trails not less than 90 days in advance. Give telephone of contact man if possible.

Address of contact man is in the same city as site of event unless otherwise specified.

NEW YORK—Rochester, March 5-28. 18th Rochester International Salon of Photography, Memorial Art Gallery. E. F. Richner, 5 Crest Rd., East Rochester.

NEW YORK—New York, April 6-11. Auto-Lite Auto Show at Waldorf-Astoria.

CALIF.—Marysville, May 2. Modelplane meet sponsored by Exchange Club. L. C. Armstrong, 229 "B" St., Yuba City.

NEW YORK—Brooklyn, May 15. Model Flying Fair sponsored by N. Y. Mirror at Floyd Bennett Field. Ted Clodius, N. Y. Mirror, 235 E. 45th St., NYC.

CONN.—Hartford, May 16. Modelplane team race sponsored by Greater Hartford Model Airplane Club. Richard Matava, 358 Prospect Ave.

CALIF.—Los Angeles, May 29-30. Modelplane State Championships sponsored by Calif. State Exchange Clubs. R. E. Gass, 2864 Rutgers Ave., Long Beach 15.

PENNA.—Gettysburg, July 25. Modelplane contest sponsored by Gettysburg Model Airplane Club. J. H. Pitzer, 9 Hanover St.

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usually in the early spring months. The wisest procedure is to apply early in your senior year—by October. Most scholarships are awarded on a competitive basis; the College Entrance Examination Board Tests may play a part in this.

Generally speaking, the requirements for scholarships include a good high school record, a definite financial need, proven interest in several extra-curricular activities (you should be well-rounded), and plans to enter a profitable or worthwhile field. And here's something that may surprise you: other things being equal, *the boy who can say he has worked during vacations or after school will often get the preference.* That concomitant helps prove you are serious about wanting a college education, can earn part of your way, and have a sense of responsibility.

And the time to start is *now*. Whether you're already in high school or soon to enter, you can't begin getting in shape too early. Only rarely do coaches pick a man to play in the big game who just started training the week before. Today is the time to consider the career you want, to do something about keeping up a good, steady average in your studies, to mix healthy, outside interests with work. Then, when you are eligible to apply for scholarships, you will be ready, and not winded like the Joe-come-lately-in-training who couldn't catch Coach's eye anyway.

One obviously important thing to do is to find out as much as possible about all the scholarships you can. Ask your teacher, guidance counseler, school principal. Follow the tips and suggestions in this report. Among other books on the subject, look for these in your school or local library: "Scholarships, Fellowships and Loans," by S. Norman Feingold, the Bellman Publishing Co., Boston 16, Mass.; the latest edition of "Lovejoy's Complete Guide to American Colleges and Universities," published by Simon & Schuster, New York, N. Y.; pamphlets like "Scholarships and Fellowships," by Theresa Birch Wilkins, Bulletin No. 16, Federal Security Agency, Office of Education, obtainable for 55 cents from the Government Printing Office, Washington 25, D. C. Also, the catalogs of the various colleges try to list the scholarships which are available at their respective institution.

However, no one compilation gives you all the opportunities open—the field is intricately ramified, certain scholarships are not publicized, and the picture changes constantly. Grants may be curtailed, added to, new ones announced with suddenness.

This magazine, in every future issue, will contain information packed features on timely opportunities and answers to your problems in the field of education, as part of a standing Street & Smith editorial policy. (*Brotherly gesture:* if your sister has been wondering about the same sort of questions in this respect, and has not yet made its acquaintance, by all means tell her to "be your guest" for the price of the latest issue of *Mademoiselle* magazine; its regular College Department has earned nationwide recognition and honors for service.)

To get down to cases again, Air Trails HOBBIES For Young Men will in future issues tell you about the possibilities of jobs at college, how and where to get loans for education, career trends, intimate closeups of new offers. If you're "wondering what to do," make us your headquarters for information and ideas!

The Cameron .09 Marine Engine was developed especially for powering model boats. It is available in a two-speed model in addition to the conventional single-speed model. The two-speed (double jet model) gives the user of radio control models the added advantage of being able to change the speed of the engine while the boat is in operation. The regular single-speed engine is also ideal for use in powering radio control boats where the two-speed feature is not especially preferred.

The Cameron .09 Special Marine Engine can be used in powering model boats of almost any size. In testing during its development, a row boat carrying four people was actually towed by a small radio controlled boat powered by a Cameron .09 Marine Engine.

The engine is of very rugged construction with extremely thick wall sections throughout to provide for even heat transfer and dissipation to eliminate all possibility of uneven expansion or thermal distortion during operation. It is a lapped piston type engine having one-half inch bore and one-half inch stroke, and is precision built, using the best materials throughout. All working parts are heat treated and micro-finished for long trouble-free service.

Water cooling is provided for on both models of the Cameron .09 Special Marine Engine to eliminate all possibility of overheating of the engine which would otherwise cause faulty operation due to improper carburetion. This cooling feature makes it possible to install and operate the engine deep in the hull or in cabins of boats where engines would not otherwise operate properly due to an insufficient stream of air for cooling. Engine runs of any time duration are also made possible by this special cooling feature which is not found in any other model engine.

Water cooling of engine is not necessary when engine is operated where sufficient air is available for air cooling, as engine is adequately finned for proper air cooling under all normal circumstances.

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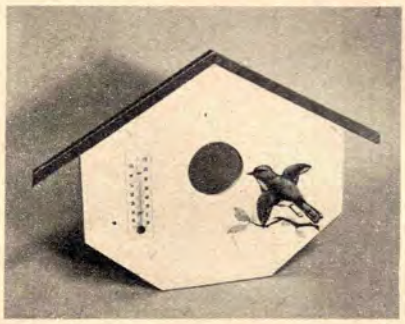

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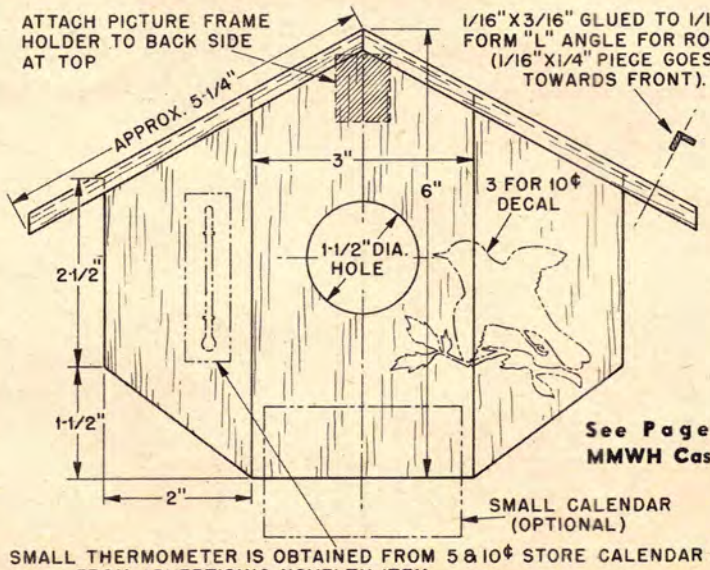

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See Page 107 for MMWH Cash Awards!

HOBBY BOOKSHELF

Among the many excellent books on sporting subjects by Van Nostrand Co., 250 4th Ave., NYC 3, is "The Arts of the Sailor" by Hervey Garrett Smith. $5. If you're serious about sailboating or motorboating, but scared off by the price, team up with a couple of like-minded chaps and get this one. 150 superb drawings. . . . "Hammond's Guide to Nature Hobbies" is one of those real gems you stumble across all too infrequently. We often wondered what the "bug collectors" got out of their hobby—now we know: lot's of fun, satisfaction and beaucoup knowledge. Now this magnificent collection by Dr. E. L. Jordan of Rutgers University opens up a fine new realm (to us, at least) as it details the fun of exploring fields, woods and streams. 64 pages, 9½ x 12½ inches, 146 illustrations and drawings. $2.95. C. S. Hammond & Co., 515 Valley St., Maplewood, N. J.. . . . So maybe sailing or nature hobbies are not your dish—at the moment. Then you should be ready for the "Nelda Blue Book of Hobbies," a catalog and cyclopedia of model railroads, aircraft, ships, boats, historical vehicles, handicrafts and model-builders tools. Over 5,000 available products detailed; this includes more than 850 model airplanes and related accessories. At the hobbyshop or $2 by mail, Nelda Publications, 855 Sixth Ave., NYC 1.

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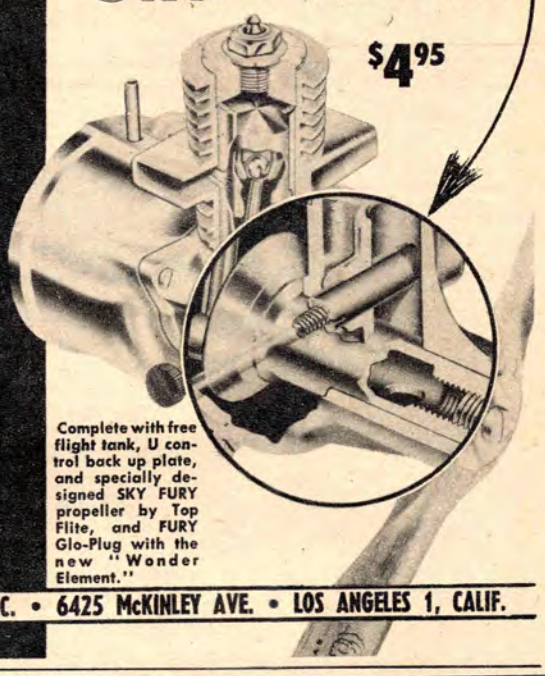
See next month's issue for the third in a series of INSIDE FACTS about the SKY FURY.



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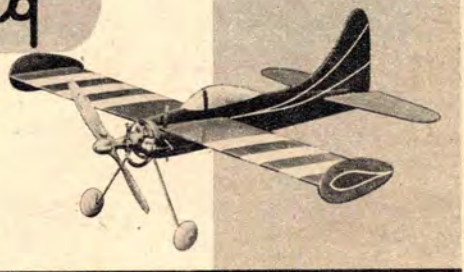

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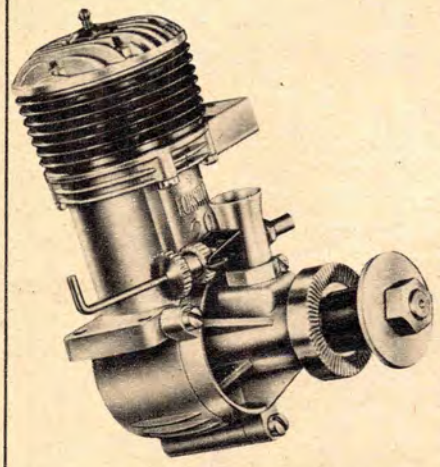

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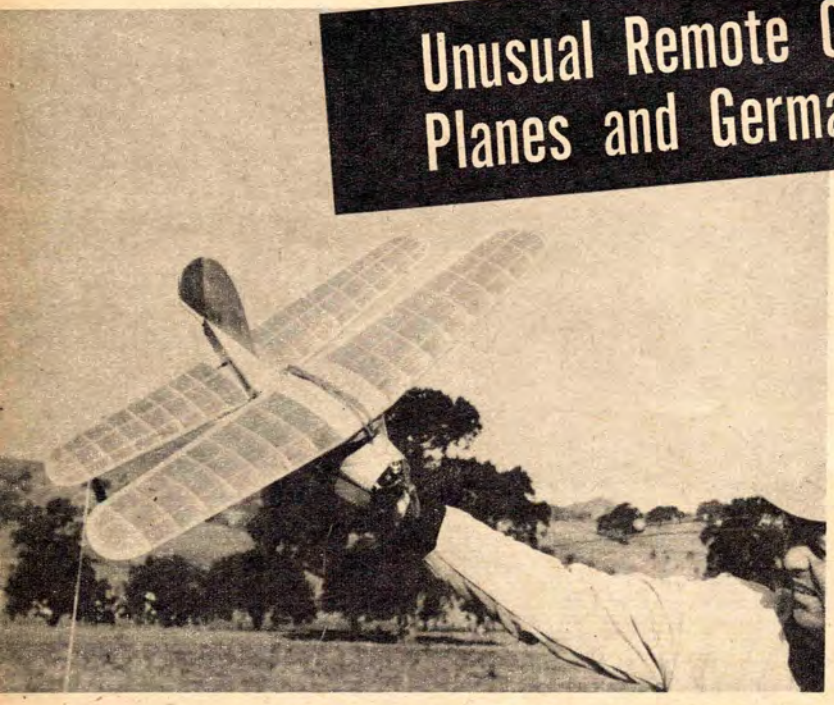

"Unusual, but flies very good," says Dale Root of Oakland, Cal., noted West Coast radio control expert. Don Johnson made it, calls it his "Short Circuit"—hez member of East Bay Radio Controllers. Uses Wasp or McCoy .049 diesel, weighs 20 oz. with Aerotrol. The combined area of the wings is 250 sq. in.

Preparing to fly in the British Nationals radio control event is a previous winner, Mr. Sallis of Cambridge, England. Model is powered by E.D. .15 cu. in. diesel, utilizes ECC single hard-tube receiver. Looks a little to us like some of those early Scientific gas model kits designed by pioneer Ben Shereshaw.

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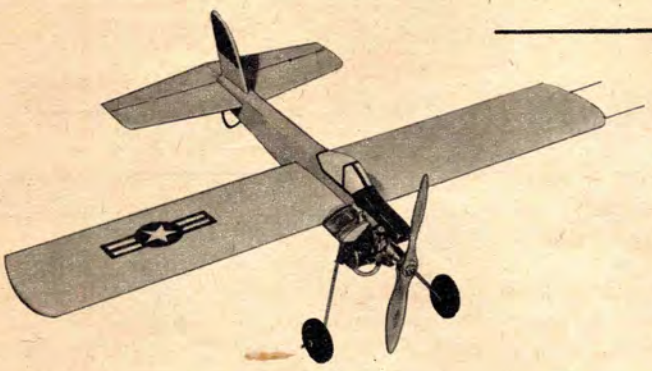

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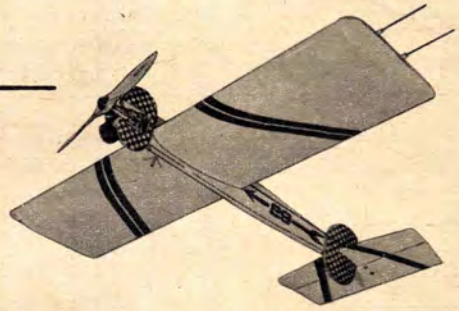

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$ Have you model pictures of special interest to Air Trails HOBBIES readers? We pay $10 for each one published. Send them along today!

Volkswagen "bus" is miniature built for radio controlling by Mr. L. Hildebrand who lives close to the Red sector in Berlin ("radio control flying . . . presents many difficulties due to our proximity to the Soviet Zone"). Control model equipment and steering mechanism were developed from the model R/C Porsche sportscar in one of our previous issues.

This is a typical British competition R/C model except it uses an American engine, a Forster .29. More unusual are all those impounded transmitters. When you come to an English meet you turn in your xmtr and cannot use it until your turn to fly.

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GROUP 454

"AGGRESSOR" combat control line fighter with "built-up" profile-type fuselage designed for quick construction and rugged flying. Designed by Earl F. Witt, noted combat judge from Lakeview, Wash. K&B .29 shown; can take most any .19 to .35 engine. Spans 38 in.; measures 26 in. overall. **Pages 76-77**

"HAWKER TYPHOON" British World War II rocket fighter as a slick control line flying scale by Walter A. Musciano. Takes K&B .23 upright, a Fox .29 inverted or equivalent power plants. Spans 31 inches; just 2 feet overall length. **Pages 36-37**

"DOLPHIN" a delightfully easy to build inboard cabin boat with lines like Gloucester lobsterman. Remarkable feature is that the complete boat is made from 1/16 inch sheet balsa with all of the conventional time-consuming bulkhead-planking steps eliminated. Overall length is 16 inches, beam is 3¾ inches; height is 3½ inches. Uses small electric motor as power. **Pages 48-49**

50¢ for complete group

GROUP 454A

"WAG", Dr. Walter A. Good's sensational new and long-awaited radio control high-wing monoplane for rudder or rudder-elevator-engine control. Spans 5 feet, has 4.5 sq. ft. wing area. Wing loading 1 lb./sq. ft. Fuselage 43 inch overall. Power is Forster .29 or equivalent. **Pages 42-43-44-45**

"MARTIAN SPACESHIP" by Roy L. Clough, Jr. An out-of-this-world design that will have the whole town talking. The space vehicle is 39 inches long, is powered by a Half-A engine, flies like a charm, yet has no wings. What keeps it up? No gases of any sort used! Diameter 10 inches at widest point. Easy to construct. **Pages 28-29**

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Double tissue covering gives almost planked strength. Area is 348 sq. in. Weight is 18 oz. including E. D. 2.46 diesel and prop. No downthrust, only slight right sidethrust. Flies best in wide shallow climb to right. Stab is tip-up fuse operated.

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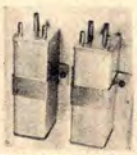

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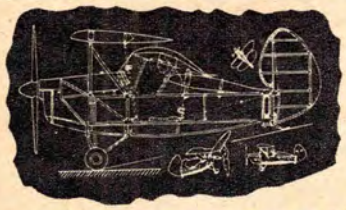

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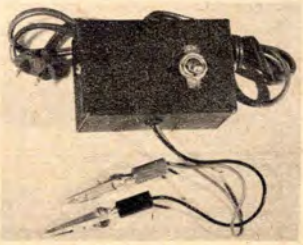

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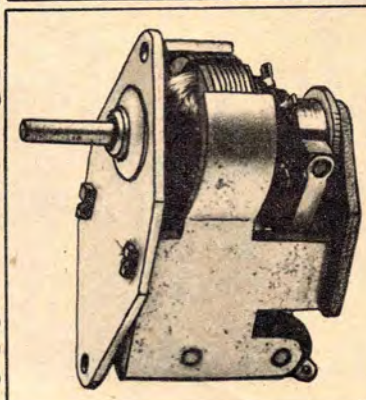

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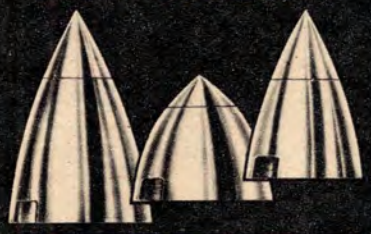

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Front, lt.: Wendall Faunce, Stan Coleson. Rear, lt.: Lee Renaud, Lou Andrews, Ed Dolby.

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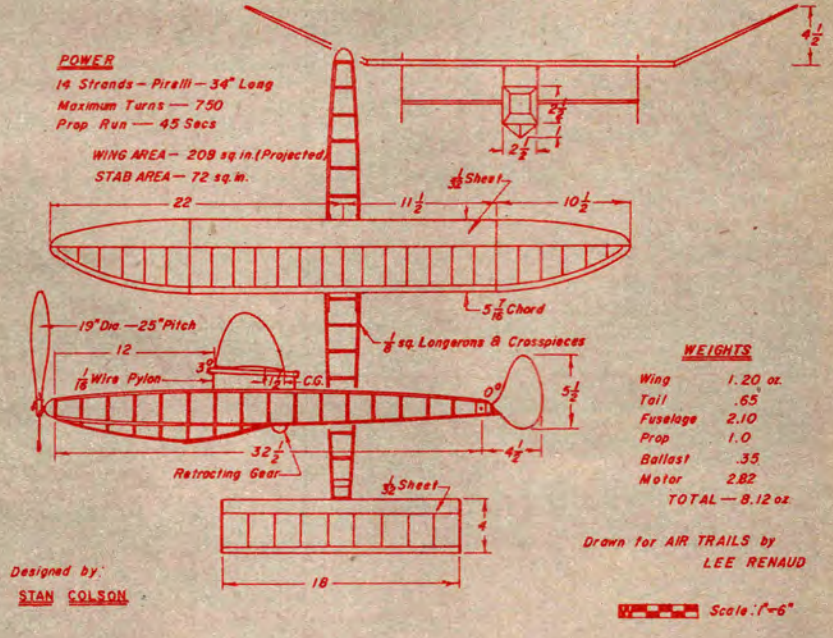
NEW STYLES

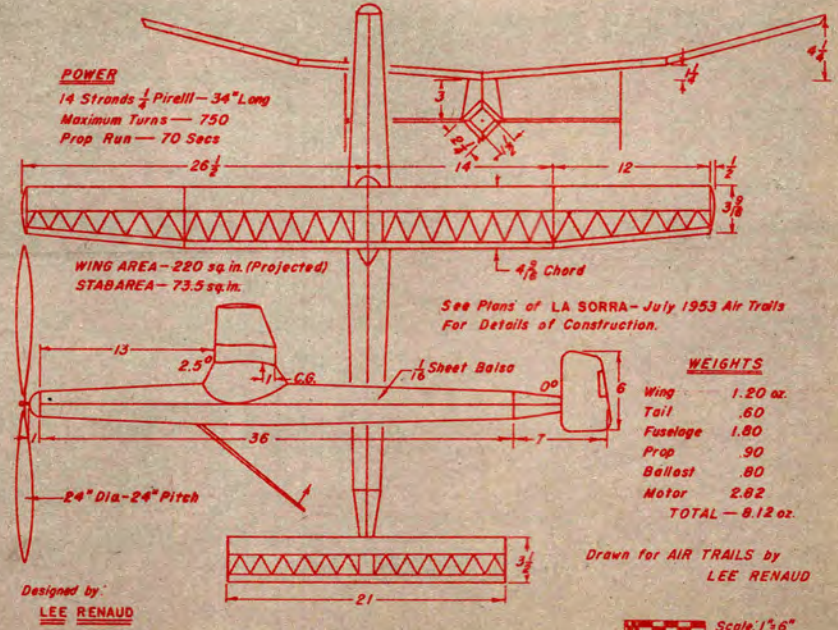
in International Rubber-powered Modelplanes

■ New FAI rules will have a profound effect on Wakefield models. Specifications governing minimum weight and areas remain, but the rubber motor is limited to 2.82 oz. This includes lubricant and small bands used in making up the motor. With 4 ounces the minimum under '53 rules (many used 6 oz.), it is obvious performance will be sharply reduced now. Herewith our solutions by the NEWG.

Data and Drawings by Lee Renaud

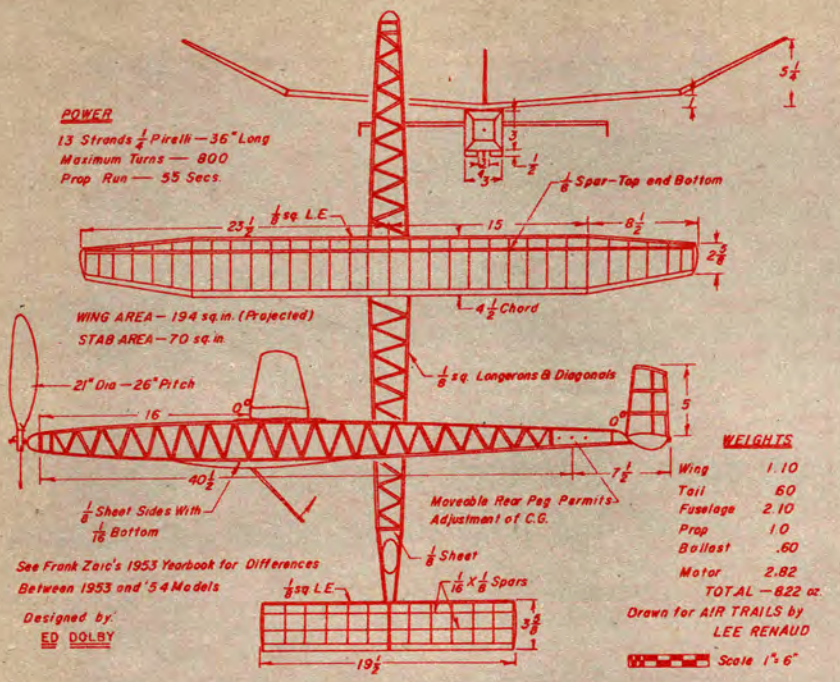


Colson's design is quite similar to his successful pre-war models. Wire pylon gives high wing location.

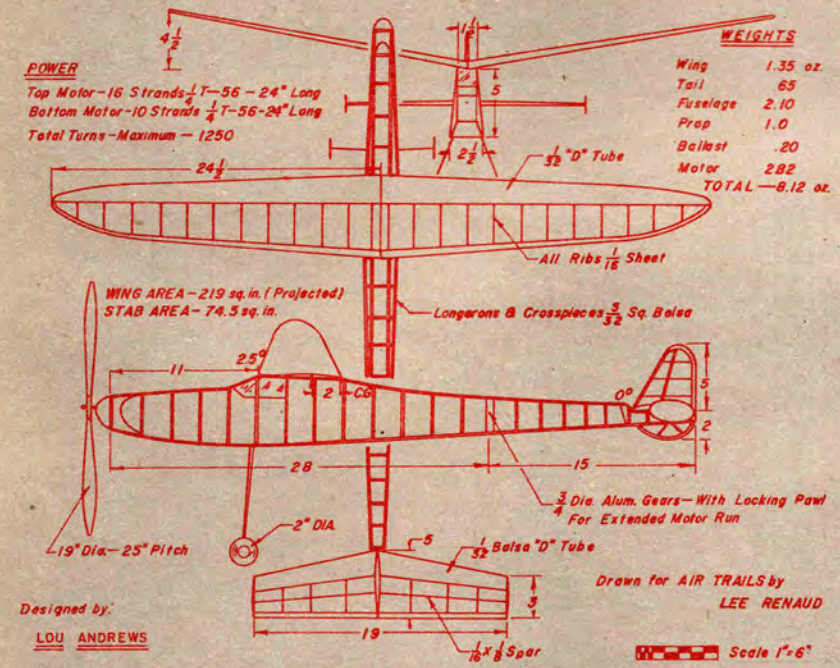


Renaud's new high aspect ratio (12.5 to 1) combined with small stab results in very low sinking speed.

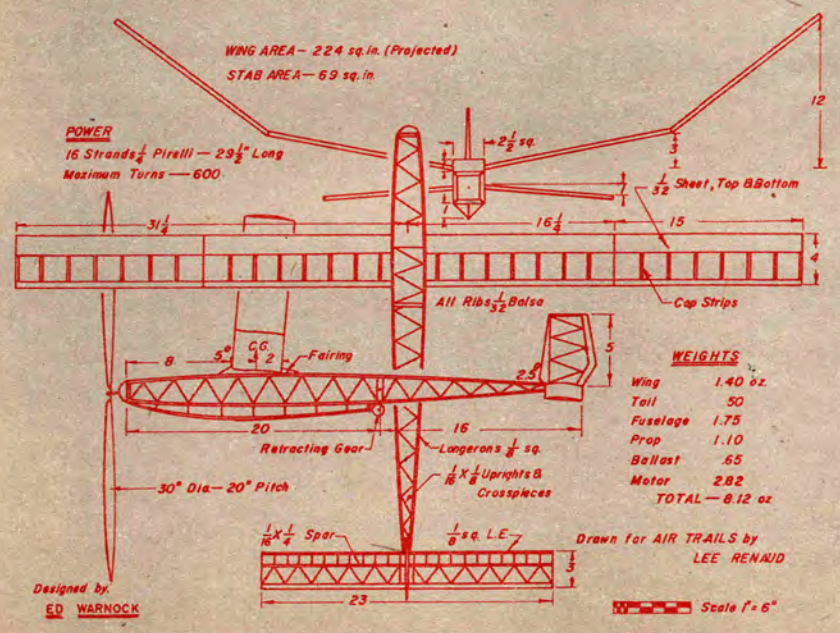
Dolby's model had fuselage reduced 9 in. over '52 and '53 craft, yet his is still longest in group.


POWER
13 Strands 1/4 Pirelli — 36" Long
Maximum Turns — 800
Prop Run — 55 Secs.
1/8 Spar-Top and Bottom
1/8 sq. L.E.
WING AREA — 194 sq.in. (Projected)
STAB AREA — 70 sq.in.
4 1/2 Chord
21" Dia — 26" Pitch
1/8 sq. Longerons & Diagonals
1/8 Sheet Sides With 1/16 Bottom
See Frank Zaic's 1953 Yearbook for Differences Between 1953 and '54 Models
Moveable Rear Peg Permits Adjustment of C.G.
1/8 Sheet
1/8 sq. L.E.
1/16 X 1/8 Spars
Designed by: ED DOLBY
WEIGHTS
Wing 1.10
Tail .60
Fuselage 2.10
Prop 1.0
Ballast .60
Motor 2.82
TOTAL — 8.22 oz.
Drawn for AIR TRAILS by LEE RENAUD
Scale 1" = 6"

Andrews combined realistic appearance, aerodynamic efficiency to show what can be done here.


POWER
Top Motor — 16 Strands 1/4 T — 56 — 24" Long
Bottom Motor — 10 Strands 1/4 T — 56 — 24" Long
Total Turns — Maximum — 1250
WING AREA — 219 sq.in. (Projected)
STAB AREA — 74.5 sq.in.
3/32 "D" Tube
All Ribs 1/16 Sheet
Longerons & Crossplaces 3/32 Sq. Balsa
3/4 Dia. Alum. Gears — With Locking Pawl For Extended Motor Run
19" Dia. — 25" Pitch
2" DIA
1/32 Balsa "D" Tube
1/16 X 1/8 Spar
Designed by: LOU ANDREWS
WEIGHTS
Wing 1.35 oz.
Tail .65
Fuselage 2.10
Prop 1.0
Ballast .20
Motor 2.82
TOTAL — 8.12 oz.
Drawn for AIR TRAILS by LEE RENAUD
Scale 1" = 6"

Warnack is unconventional. He wants high climb at low speed. Dihedral, high A/R give torque control.



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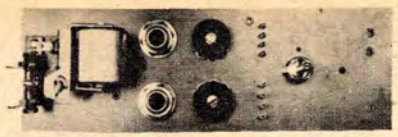

LORENZ This famous 2 tube receiver deluxe kit as shown complete with tubes—wound coils—subminiature pots—closed circuit phone jacks for metering—Sigma 4-F relay 2x6 inch drilled baseboard with fixed eyelets all pretested selected parts—total weight about 5 ounces $19.95
Wired and tested $10.00 additional
Standard kit with tubes and Sigma 4-F relay..... 14.95
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MINI-MAC Single miniature hard receiver deluxe kit includes drilled base with fixed eyelets—tube wound coils etc. All pretested parts—less relay..... 8.95
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E. D. relay..... 5.00
Wiring charge on above kits (except deluxe Lorenz) 5.00

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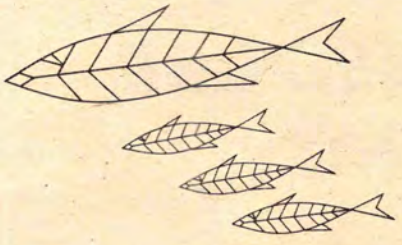
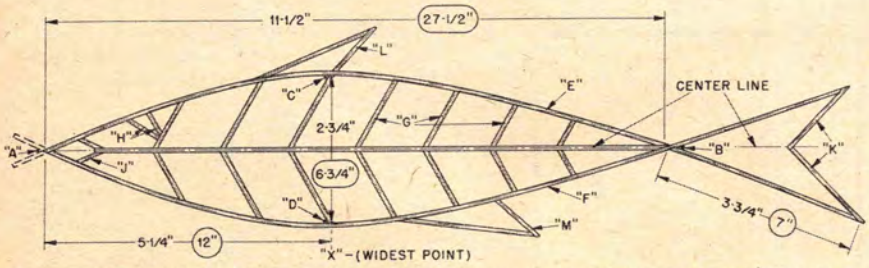
Making Money With Hobbies

BALSA WOOD "Wrought Iron" FISH

Make Easy, Unique Wall Decoration

Here is a simple, quick project that will endear you to Mom and convince her that balsa shavings on the living room rug aren't so terrible after all! These fish look just fine swimming across the wall of the living room or den—in fact, it takes more than a fast glance to convince yourself that they're not of iron wire. Mama fish and the three babies can be built in two different sizes. Selling this would be a good fund-raising project for your hobby club.





1. SAND WOOD SMOOTH WITH FINE SANDPAPER
2. DRAW CENTER LINE AND INSERT PINS AT "A" AND "B"
3. INSERT PINS AT "C" AND "D" AND BEND STRIPS "E" AND "F" INTO PLACE. "F" CROSSES OVER "E" AT POINT "B"
4. BUTT DIAGONALS "G" AT CENTER LINE AND CEMENT. CUT DIAGONALS TWO AT A TIME TO INSURE SIMILARITY.
5. CEMENT ON CENTER STRIP (FULL LENGTH OF FISH).
6. ADD EYE (H), MOUTH (J), AND TAIL BRACES (K).
7. CUT AWAY CENTER LINE STRIP AT FRONT FOR MOUTH, THEN ADD TOP AND BOTTOM FINS "L" AND "M"

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HOBBY-MODELING

Endurance Records. Gossip, comment, write-ups and various other forms of information have preceded the following which we feel is a "must" to the open minds of the modeling world. This endurance record of some eight hours in *no* way exceeded that established in the WAM; there is no comparison between this refueling in flight and the completely unassisted flights made in the WAM contests.

The matter of physical endurance and luck are entirely different when one considers that *all* this tremendous weight of fuel for the flight is carried aloft by the airplane during take-off; in flight the fuel weighs more than the plane.

Control Line Cargo. Since interest is popping up all over the country in this C/L cargo event we will attempt to give a short résumé of the rules. WAM states that lines must be .018 inches in diameter; engine used can be .19 to .65, multi-motors shall not exceed total displacement of .65 cubic in. Cargoes are weighed after a landing made without nosing over and without any shifting of cargo or structual damage to the model—excluding flat tires or broken props.

Contestants are allowed two attempts to make two official flights and are allowed only three minutes to get their ships airborne; take-off must be unassisted (no whipping). Pilot must remain in a 10-foot circle during the take-off and complete 4 consecutive laps of over six feet altitude. He is allowed a total of five minutes for his entire starting time and flight.

When a flight has been declared official, score is figured as weight of cargo measured in ounces (to the nearest quarter-ounce), divided by displacement of motor(s) (to nearest 1/100 cu. in.) carried out to nearest tenth of a point. Thus a Fox .29 which carried 3 lb., 10.5 oz. cargo would receive an official score of 201.7 points (58.5/.29).

1. Dick Werner and his "Afterburner," modified version of Dennie Davis' "Bean Burner." Flown near 0-0; very fast under power.

2. Bill Trumble and a real, honest "Okihogan"! Built from Fubar kit, model was "hoganized" and silked—a beautiful job.

3. Jack Oxley and Harry Gould show off Torp. .19 PAA-Loads. Jack flattopped his stab. 800 square inch craft, very light.

4. Harold Leddington's OK Cub .099 flying wing. Did more than 56 mph in this uncowled condition. "Fuselage" is fuel tank.

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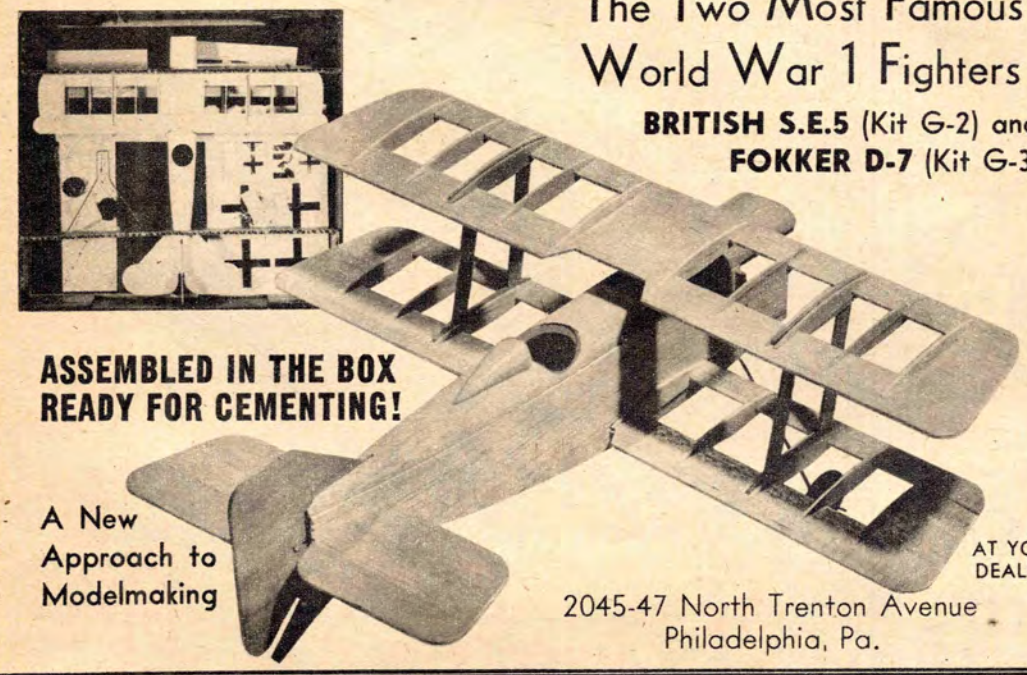

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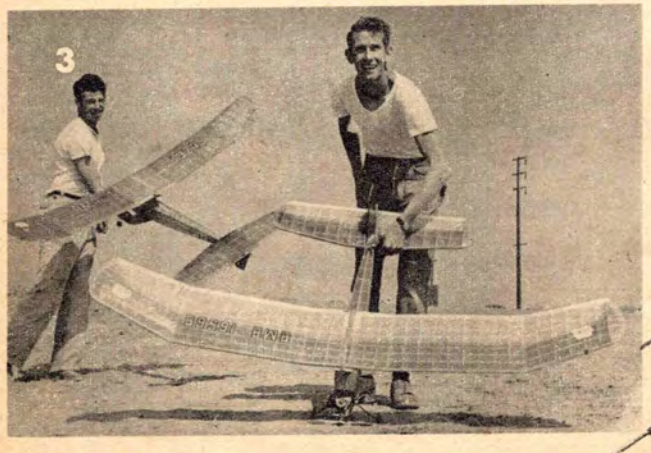

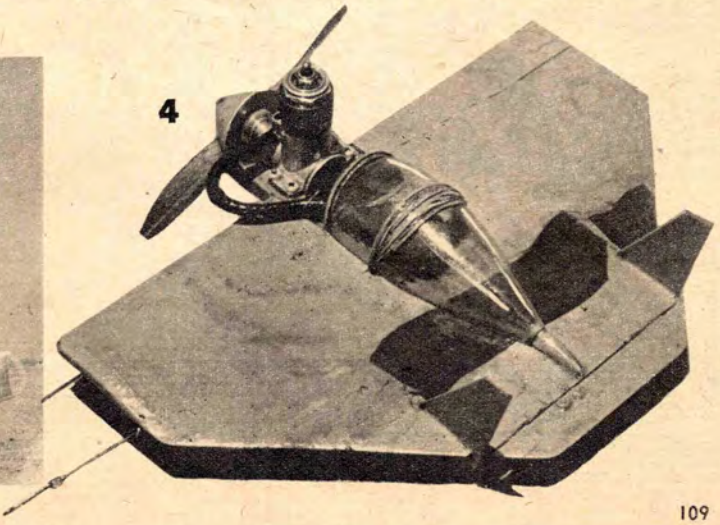

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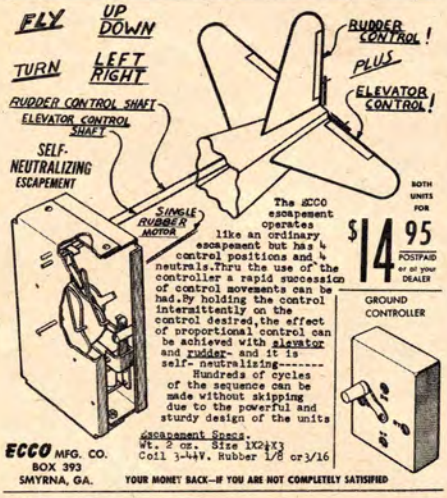

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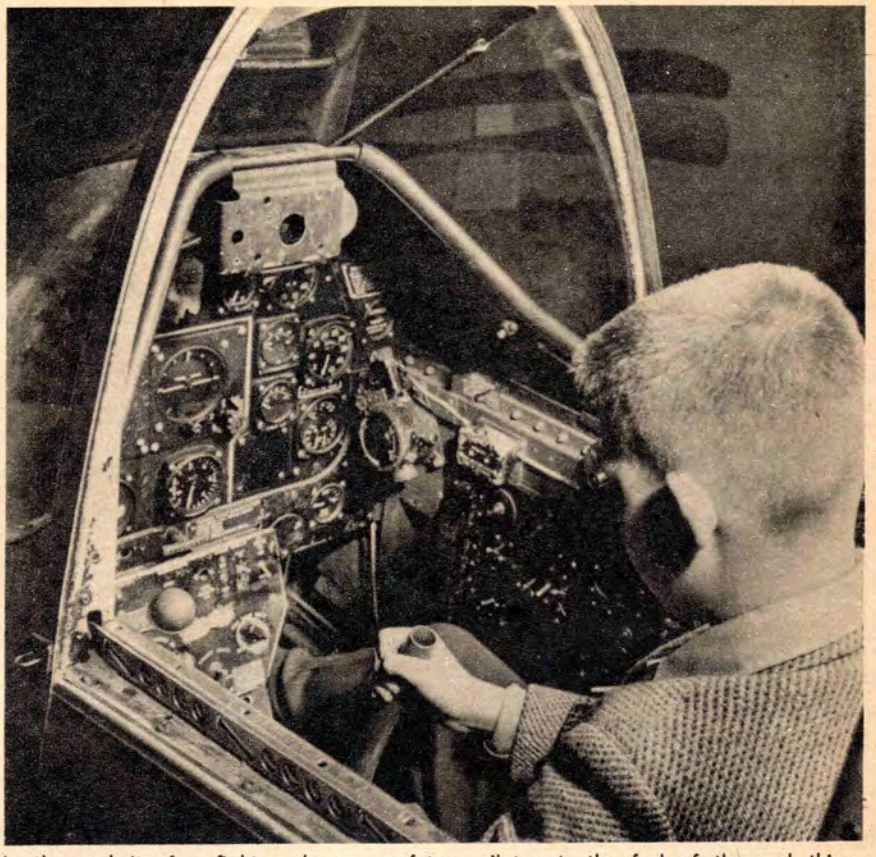


In the cockpit of a fighter plane, one future pilot gets the feel of the real thing.

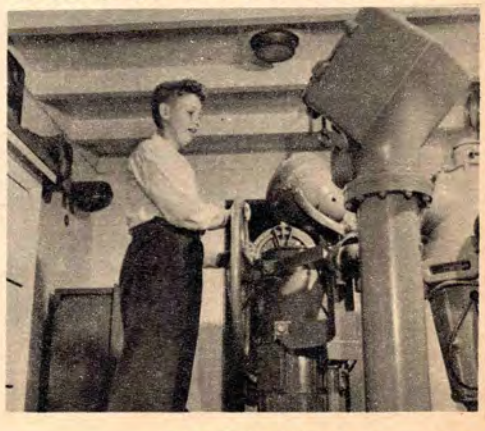
Mechanical Wonderhouse

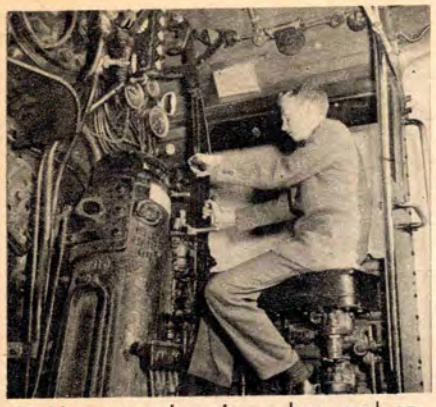
How many folks have the opportunity to drive a locomotive? steer an ocean liner? or handle the controls of a fighter plane? "Not many" is right—but at Philadelphia's famous Franklin Institute, the welcome mat is out for all who want to test their steering skill. Though it's all fun, prime object of the Institute is to get young people interested in scientific and technical careers.

Free swinging sand-filled cone illustrates its curved path through air by tracing geometric pattern.

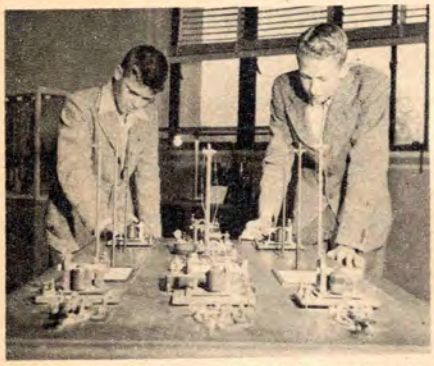
Perhaps this young lady in the cockpit of an early Bell helicopter may one day be an aircraft engineer.

Authentic reproduction of a ship's bridge has wheel, compass, engine telegraph, other control devices to give idea of sea vessel operation.





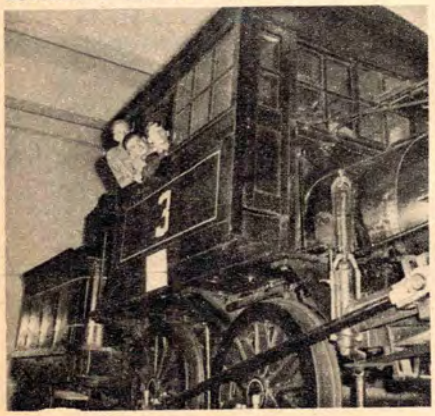
Aspiring railroad engineers have real opportunity to study all the myriad controls in cab of an honest-to-goodness locomotive.



Telegraphy is demonstrated by authentic miniature system operated like real thing. Exposed mechanisms show how it works.

Background photo mural of Philadelphia provides young pilot in Link trainer with reference points when hood is in opened position.

Wherever possible, Institute uses exhibits which can be operated as well as observed. Locomotive can be driven from the cab.



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Everything Under Control

(*Continued from page 83*)

will. We understand the fail-safe arrangement originated with Bob Trainer, who has also utilized the same idea for attachment to another receiver; he uses a 3V4 for the "fail-safe" tube (only half the filament connected), and runs lead X from the .01 condenser to the armatures of the relays, instead of to the tube plate as we show it here. Bob's version shows a 20 meg. gridleak, and an 8000 ohm relay, and the screen grid of the 3V4 is connected direct to B plus.

Commercial Corner. DeBolt Model Engineering Co. (Williamsville, N. Y.) announces the Live Wire Cruiser, 65" span, 775 sq. in. area, bare weight about 3 lbs. for .19-.23 engines, either 2-wheel or trike landing gear. Simple removable radio section provided; features spoiler boards. $14.95.

Ready-to-use proportional pulser introduced by Electronic Specialty Supply Co. (58 Walker St., New York 13, N. Y.). Motor-driven type. Housed in husky molded bakelite box 6¼ x 3¾ x 2", pulser is operated by two medium flashlight cells. $19.95. ESSCO has a quench coil wound with solid wire, to replace the one we used in the Mini-Mac; smaller than the Litz wire unit, weighs .22 oz. $1.65.

Control Research (Box 9, Hampton, Va.) has Combo-Meter in a simplified kit, with a 6-position rotary switch. Unit has same ranges as our original meter. $12.95. C. R. is selling a high-class miniature battery motor made by Pittman. 5-pole type motor has carbon brushes. Weighs 1⅜ oz., runs on from 2-6 V. $4.95.

Neomatic relays will be smaller; new model is 5529Y. New product is Frequency Reed relay, tiny tuned reed unit made in one and two reed types. Later, a slightly larger four reed unit will be offered. Size is less than ½ cubic inch, and weight less than ½ oz. May be had in coil resistances from 20-10,000 ohms, and in a wide range of audio frequencies.

Double control escapement by Ecco Mfg. Co. (Box 393, Smyrna, Ga.) has been reduced in size to 1" x 2⅜" x 3". Permits use of two neutral positions as secondary control circuits, with a wiper-type switch arrangement.

Berkeley Model Supplies (West Hempstead, N. Y.) has dropped price of Super Aerotrol kits; transmitter and receiver purchased together sell for $29.95, less tubes and batteries.

Gyro Electronics Co. (325 Canal St., New York 13, N. Y.) has stock of PE-157 power supplies, basis of Mac II transmitter. $11.95. They also offer low-cost dual-range test meter kit. $3.85. It utilizes a high grade moving coil meter, has ranges of 0-5 and 0-50 ma. New is Gyro "Beeper," rotary switch type control box for use with 2 arm escapement. Switch will turn only one way, comes in box 2½" sq. x 1" deep. $1.95.

Strat-O-Seal Mfg. Co. (3039 W. Fullerton Ave., Chicago 47, Ill.) producing its proportional actuator; works in same manner as that described in our Jan. '54 issue. Weighs about ½ oz. Instructions for installation and for a simple relay-type pulser. 1" x ⅞" x ⅝", draws 190 ma. on 1½ V. for small planes, 3 V. can be used for more power. $2.00.

Model-Hobby World

(*Continued from page 93*)

wheel, brakes and ailerons. More than $86,000 has been spent in developing this control; it is scheduled to hit the market in 1955.

A final tidbit from J.W.'s letter file—this regarding his A-J fuel regulator and pressure tank: "Be sure you keep the pressure from the tank as low as possible, since there is no advantage in having more pressure than necessary for fuel to reach

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Hobby Shop Directory

Model Builders! Here's a listing of the nation's leading hobby shops. You'll want to file it away—and when you're in the neighborhood, drop in and browse around. They're expecting you.

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Nationally advertised model planes, boats, trains, kits and supplies
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the regulator. So many times we find rubber bands too big and too tight on the tank which can produce excessive pressure against the ball check valve resulting in erratic operation."

WAM Report for '53. Are contests getting larger? Yes, they had 22½% more participants than the year before. What pulled the most contestants? Stunt events drew 47.9% of the entries, speed was next with 24.9% and combat third with 11.8%. Flying scale enjoyed a rather lively season, outdrawing both the jet speed events and proto speed. More than 76% of the entries posted official flights.

Figures are from over 2,000 entries.

Their records are very high, Ed Schmitz has Half-A with 71.81, Mark Brown A with 130.48, Arnold Nelson B with 134.77, Vic Garner C with 140.40 and Herm Shiman D with 158.60. Tom Gatewood has high jet speed of 135.29. In control line endurance without refueling, Bernice Jaynes stayed aloft for 3 hours 29 minutes and 15 seconds.

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FIVE SEPARATE USABLE CHANNELS!

POWERFUL MOTOR DRIVEN SERVOS!

STICK OPERATED CONTROLS!

The "Channel Master" is a completely proven, flight tested system with hundreds of unbiased development flights by such R/C flyers as deBolt, McElwee and Swank. One test model was a small .08 powered "Live Wire Trainer"! Complete flying weight of system, only 30 oz.

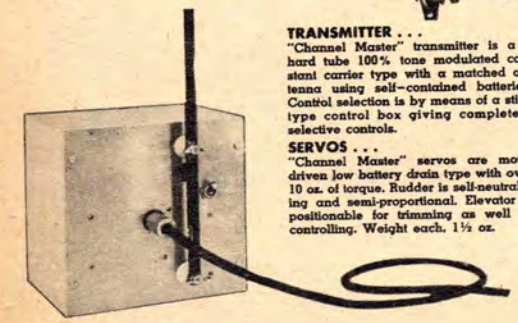
YES, it is here! Now, you can have rudder, elevator and engine controls, completely selective to your every desire! No longer is the model your master, with "Channel Master" YOU FLY IT just as you would a full scale airplane. Stick type control gives positive selection, no sequences or "missed beeps"! Powerful transmitter reaches out into the furthest distances with confidence! A super sensitive receiver detects each command passing it on to the powerful motor-driven servo without error. Excessive servo power moves any control with ease! The very ultimate in R/C operation!

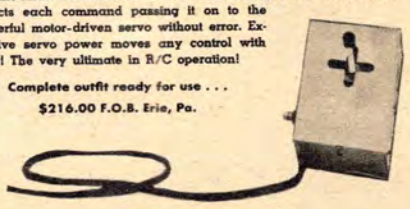
TRANSMITTER . . .
"Channel Master" transmitter is a 3 hard tube 100% tone modulated constant carrier type with a matched antenna using self-contained batteries. Control selection is by means of a stick type control box giving completely selective controls.

SERVOS . . .
"Channel Master" servos are motor driven low battery drain type with over 10 oz. of torque. Rudder is self-neutralizing and semi-proportional. Elevator is positionable for trimming as well as controlling. Weight each, 1½ oz.

RECEIVER . . .
"Channel Master" receiver is a 3 hard tube audio tone-resonant reed selection type. An extremely sensitive receiver with broad simple tuning, NOT affected by interference. Sensitive relays respond only to the desired command, system "fails safe." May be used with servos or escapements.
Dimensions: 2¾" x 3½" x 2½" high, weight 8¾ oz.

Complete outfit ready for use . . .
$216.00 F.O.B. Erie, Pa.





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THE BIGGEST NEWS IN MODEL BUILDING HISTORY-

Berkeley's 1954 LINE

SEE PAGES 51 THRU 66

The Last Word on HOBBIES

Doug Rolfe is hard at work researching and drawing up early vintage cars between 1903 and 1909, autos that weren't around too long, but did contribute to the development of American auto progress. Doug is also turning out a slick cutaway of Fred Fescharek's giant-size Fokker Triplane control line scale model. Fred is a Pan-Am co-pilot flying between NYC and Johannesburg, South Africa. Early autos and the Fescharek's Fokker in the May issue.

* * * * *

All the pro and con Arthur Godfrey publicity reminds us that no one has ever mentioned the wonderful way he sweltered through the 1951 Dallas National Model-plane Meet. Man, was it hot during that contest! (Your Ed was stationed in the Sahara desert for a spell during World War II, yet his first case of heat prostration came during that Dallas fracas!) Lt. Cmdr. Godfrey, USNR, attended on special duty in uniform at the request of the Navy. Among his jobs was the selection of the best finished model for the Testor Beauty Award. Arthur picked out the winner (a Sparrowhawk entered by Orley Anderson, Corpus Christi), then had to wait a long, long time in the broiling sun with the thermometer well over 100 while meet officials ran down Orley. A. G. waited—and waited—and waited. All the other Navy brass was having a collective fit; not Mr. G. The guy was really patient; in his shoes, we'd have stomped out. Finally Anderson was located, Mr. CBS did a magnificent job presenting the Testor Cup, and everyone broke ranks for a more shady spot. But ever since then we've wondered how his critics would stand up under that Texas sun, what their reactions would be in similar circumstances.

* * * * *

A quick word to the radio control fraternity: got something mighty interesting coming up in May; it'll give your equipment quite a workout, make you the most talked about man in town, yet it doesn't require wings, stuffing boxes or four wheel brakes.

* * * * *

We're always interested in comments from readers, so keep those letters coming!

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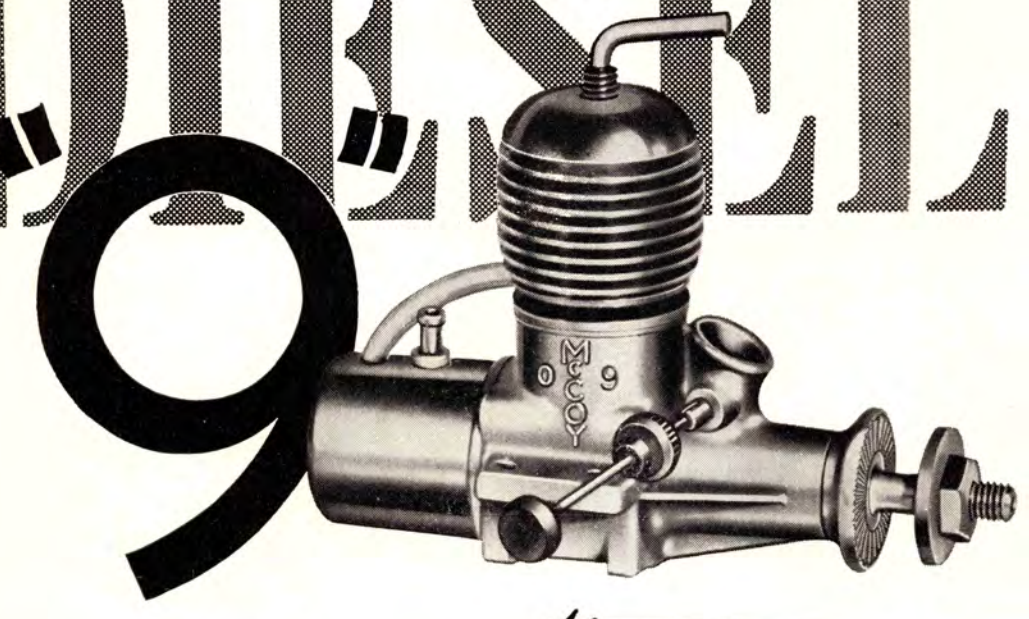

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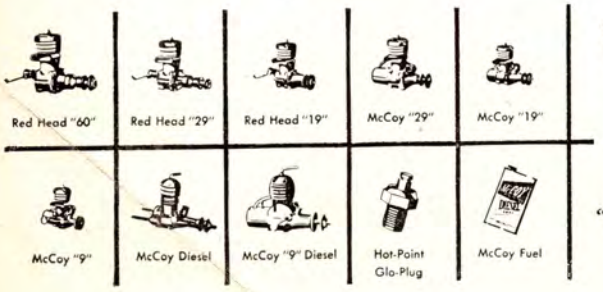

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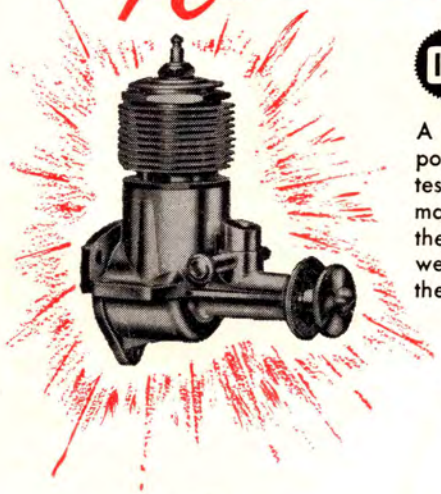

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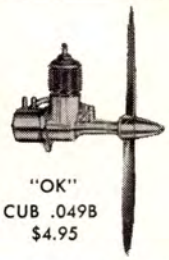

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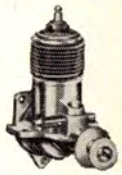

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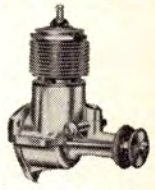

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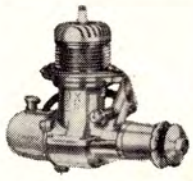

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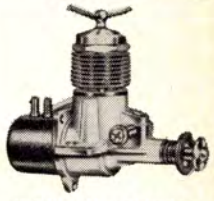

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